

DES denies breaching Houghton principles

by David Walker

The Department of Education and Science has denied breaching the Houghton principle which put university teachers on a par with their polytechnic counterparts.

This follows a claim by Mr Laurie Sapper, general secretary of the Association of University Teachers, after their cost of living settlement this week that the DES had acknowledged that university teachers should be given a salary lead.

He claimed that the DES had used to negotiate establishing this pay differential when the Government's pay policy was lifted.

He said that the arbitration tribunal which considered the university teachers' pay claim in May accepted that comparability meant that significant work differences between universities and further education needed recognition.

He added that the DES had accepted this tribunal's findings and hence the principle of the salary lead.

In this week's settlement the university teachers are to get the £6-a-week they are allowed under the Government's incomes policy in settlement of their outstanding cost of living claim. The starting salary of a lecturer will now be £3,174 and

University teachers		
Lecturer only	3,174	3,279
Senior lecturer	5,446	5,447
Senior principal	6,234	5,940
Lecturer/professor	7,243	7,374
Head of department	7,897	
Grade VI only		8,037

Under the salary settlement university professors paid more than £8,500 will receive no additional cost of living increase.

£25m fund for Europe plan

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mutually recognized student identity cards would allow undergraduates from both countries to have full use of all facilities on the campus of the other country. He emphasized that he was prepared, either bilaterally or multilaterally, to extend this scheme to other market numbers. It would, he said, be an invaluable aid to student mobility.

Professor Lord, vice-chancellor of Sussex University and chairman of the Institute's council, said that research would concentrate on the post-secondary sector. This did not mean, however, that schools would be neglected. "We shall be looking at the relationship between school education and post-secondary education and the employment of those who have gone through it, reaching forward into changing patterns of work and leisure," he said.

The Institute would be highlighting

the minimum for a senior lecturer £6,234, backdated to October 1.

In addition they have secured a promise from the Government of future negotiations on the general level of salaries and—in the AUT's view—on restoring their salary lead.

As from now a university lecturer's starting salary is less than for a lecturer grade two in a polytechnic who is on £3,279. However, the maximum on the university lecturer scale is £30 more than point six of the polytechnic senior lecturer scale.

The DES document gives the university teachers plenty of ammunition for their claims because it seemed to state that the Secretary of State did accept the arbitration tribunal's finding that based on university salaries on points nearly 10 per cent above equivalent further education salaries. However two intervening events confused the issue.

The April cost of living award to further education teachers and the July White Paper on inflation meant that the eventual DES pay offer, excluding the cost of living element agreed this week, ignored the principle of differentials, the document said.

Mr Sapper said the settlement was agreed by no means satisfactory. It did not secure the relative which the arbitration board indicated nor did it fully reflect changes in the cost of living between October 1974 and October 1975.

Professors on £8,500 or more will get no part of the £312. Where adding the £312 would take their total income over £8,500 only such part of the £312 will be paid that would take their income to this figure.

ing the contribution of higher education to regional development, a particularly important issue in the context of the current British devolution debate, said Professor Briggs. And it would be continuing studies of student mobility, educational leave policies and the role of youth services.

The Institute, founded in January, has now moved its headquarters to the university of Paris-Dauphine. Through the parent foundation it will receive grants for research from the EEC, Council of Europe, the Carnegie Council on policy studies in higher education, and private enterprise. Its director is Dr Ladislav Cerny.

Meanwhile, the foundation is to open an Institute of the Environment in Bonn next month. It will be headed by M Edgar Foure, president of the French National Assembly and author of the Unesco study of permanent education, Learning To Be.



In Parliament

Individual universities must decide for themselves how best to use balls of residence in vacations, Mr Mulley, Secretary of State for Education, said in a Commons reply.

Asked what guidance universities were given about making maximum use of them so as to raise income and help stabilize term rents, Mr Mulley said it was up to individual universities. He was sure that they were aware of the financial benefit of making full use of their accommodation during vacations.

Mr Mulley was asked to list the percentage increase in hall of residence fees in Scotland in each of the past five years and the percentage increase in student grants over the same period.

He said he had no information on the fees charged by individual universities in their halls of residence.

The rates of grant for residential students at Scottish universities over the past five years, together with the percentage increase in each of the years covered, as follows: 1971-72 £430, 13.2 per cent; 1972-73 £445, 3.5 per cent; 1973-74 £485, 9 per cent; 1974-75 £505, 24.7 per cent; 1975-76 £740, 23.3 per cent.

Asked which LEAs had not taken up their building allocations for further education colleges for 1975-76 and the amounts involved, Mr Mulley said the programme consisted of selected projects and was adjusted during the year to take account of delays notified by LEAs.

Ten projects originally included in the 1975-76 programme at an estimated cost of nearly £2,750,000 had so far been withdrawn and replaced by other projects.

Cranfield sets up advisory board

Cranfield Institute of Technology has set up an advisory board to guide the Cranfield Institute of Precision Engineering (CIPE) on its future development.

CIPE was set up in 1968, with the help of £238,000 from the Government for the design of high performance precision machines and control systems.

New holiday payment may stop students drawing dole

by Frances Gilh

Students may be prevented from claiming unemployment benefit by the new holiday payment scheme by the Department of Education and Science and Health and Social Security.

It is understood that a scheme has been drawn up by officials in the two departments by which the vacation element in a student's grant, at present worth £2.63 a week, would be raised and students would be debarred from signing on for supplementary benefits.

Students can now claim up to £8.70 a week supplementary benefit during the vacations.

Last April 94,738 students signed on for supplementary benefits, representing one-tenth of all the unemployed that month. Their claims amounted to about £4m. It is believed that department officials have recommended that the amount paid out in benefits be transferred to the students' grants.

A spokesman for the National Union of Students said: "Proposals to debar students from claiming supplementary benefits in the vacation are a further indication of the Government's determination to starve the education service."

Purvis was finding it increasingly difficult to support their children in the vacation and students were finding it harder to find vacation employment, the spokesman said.

A spokesman for the DES said this week that he could neither deny nor confirm the proposal, but acknowledged that the whole question was under discussion by the Government.

Croydon shortage forces closure

The department of industrial printing is to be closed down in July next year after failing to recruit sufficient students to Croydon Education Committee agreed last week.

The decision, which has been taken on the recommendation of the college governors, will mean the closure of four part-time courses in industrial printing, composing, letterpress, litho and part finishing—and possible redundancy for seven members of staff.

The college has arranged that the 110 students currently on courses be transferred to the London College of Printing when the department closes.

At a meeting this week between the local branch of the Association of Teachers in Technical Institutions, the education committee and the authorities of the college, the latter said they were unable to give an undertaking that there would be a redeployment of staff to other posts for the lecturers were to be investigated further.

Dr Stanley Robinson, vice-principal of the college, said the decision was not a sudden one. Enrolment numbers each year had been decreasing and not one course in the department this year had attracted more than five students.

Mr Eric Nash, secretary of the local ATTI branch, said that one of the main reasons for the closure was finance.

Other reasons "were that the courses were low level and so money could not be claimed back for them by the college from the higher education point."

The local branch of ATTI is planning a lobby of the full local council next week when the education committee's decision comes up for final approval. It is unusual for decisions at this stage to be opposed.

Consult industry, TEC told

The Technicians Education Council must consult fully with industry in designing its courses a conference at North East London Polytechnic resumed last week.

The feeling that industry had not been properly consulted on TEC proposals to rationalize technical training prompted NLEP and eight technical colleges to call the conference. Over 100 delegates from education and industry attended.

Opening the conference, Dr George Brown, director of NLEP, said there were doubts in some sections of industry as to whether technical training should be organized along CNAAL lines.

Mr Frank Edgson, deputy chief officer of TEC, told delegates that the Ordinary and Higher National Diplomas, and City and Guilds courses would be replaced from September 1976 onwards.

The four new awards (Technical Certificate, Technical Diploma, Higher Certificate, and Higher Diploma) would be designed to enhance the status of technicians.

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Next week

Raymond Plant on Hegel
Lord Ashby's doom revisited
Research photography and research
CVCP on universities in crisis
Naomi McIntosh assesses the OU
Christmas competition results

Vision of expanded LSE in Dahrendorf paper

Social Sciences Correspondent

The London School of Economics is to begin discussing the New Year on absorbing two major independent social science research institutes and some of the work done at present in the Civil Service College.

The move, which will involve the Centre for Studies in Social Policy and the Centre for Environmental Studies, is likely to be announced in a "green paper" on the LSE's future which Professor Ralf Dahrendorf, the director, is drawing up in the light of consultations that have been going on this term with various departments.

Professor Dahrendorf, who came to the LSE 18 months ago from the Commission of the European Communities, gave notice of his plans in an interview in October which caused a stir among staff at the LSE. He described his vision of the LSE as a sort of Brookings Institute—the American research establishment—that combined academic excellence with a close involvement in Government policymaking and analysis.

Professor Dahrendorf, together with a coalition of senior staff, has turned towards the two social science research centres as a means of improving the quality of "policy analysis" carried on in the LSE. They intend it to develop into a centre with aspects similar to All Souls and Nuffield Colleges in Oxford, where members of the Government and Opposition come for intellectual refreshment and new ideas.

On the economic side, it is hoped that the appointments made to the several vacant chairs at the LSE in the coming year will be of the highest quality. It is understood that soundings have been made in the United States and on the Continent for suitable candidates.

A majority on the Committee of Directors of Polytechnics is now believed to favour—reluctantly in some cases—an arrangement under which polytechnics would concentrate on the next four-year courses, predominantly full degrees, and leave new two-year courses of lower degree standard in the new Institutes of Higher Education.

High on the agenda at the regular monthly meeting of the directors was a discussion of the future role of the former colleges of education and the implications for the polytechnics of the re-organization against a gloomy background of public austerity.

If the polytechnics drop lower level courses, they will lose something of their comprehensive character, which Mr Anthony Crosland, then Secretary of State for Education and Science, said in a 1966 White Paper was a "profound part of our educational heritage that we would be mad to abandon."

Such a policy might also be interpreted as confirmation of the lurid comment made in a recent hunk by two critics of the present direction of higher education policy, Mr. Tyrrell Burgetts and Mr John Pratt, that the only model for the polytechnics was of "a bowdlerized university."

There is at present no suggestion, however, that polytechnics should devote their existing lower-level courses to local colleges.

The embryonic plan is that they should not start new two-year courses if they can more effectively provide in other colleges. There are two reasons why the directors (with a few exceptions) apparently are contemplating this important divergence from the original guidelines for the polytechnics laid down in the 1966 White Paper and by Mr Crosland in important speeches at Woolwich in 1965 and Leicester in 1967.

Recently a party of polytechnic directors visited the United States. They were particularly impressed by the structure of higher education in California, where three levels have been created.

A much more important influence has been the urgent need to find a new job for the colleges of education now that fewer teachers are needed.

Resign threat limits cuts

by Sue Cameron

Mr Mulley, Secretary for Education, has won his Cabinet battle to keep education cuts down to £500m by threatening to resign.

It is understood Mr Mulley made the threat last Thursday during a Cabinet debate on planned cuts in public spending of over £3,000m. What is not clear is whether he told the full Cabinet he was prepared to resign or whether he spoke only to Mr Wilson, the Prime Minister, and Mr Healey, the Chancellor, during a break in discussions.

But by the end of the meeting he had forced other ministers to agree that the education service should not be asked to accept cuts of much more than £500m. Mr Mulley has said all along that he would regard a share out of the cuts on these lines as fair. But he was determined to

withstand demands from other Government departments for even bigger cuts in education spending.

Mr Mulley's cause was strengthened by two powerful allies. The first was Mr Short, Lord President of the Council and a former Education Secretary. Mr Short is said to have given Mr Mulley his full support during the Cabinet debate and his views always carry considerable weight.

Mr Mulley's arguments were also backed up by the Government's own think-tank, the Central Policy Review Staff. In a report on possible ways of sharing out the proposed £3,000m cutback in public spending, the CPRS said there was a limit to the load education should bear.

The total cuts of £3,000m in public spending will not be officially announced until January, or possibly even February.—JES.



CDP works out policy on colleges

Polytechnics may be forced to adopt a more restricted academic role closer to that of the universities. The only way for the colleges of education now that fewer teachers are needed.

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7 point programme for Europe agreed

Measures to improve the free movement of staff, students and researchers throughout the Common Market were approved in Brussels last week by the Education Ministers of the Nine.

The measures form part of a seven-point educational action programme, the first since the creation of the education, research and science directorate-general in January 1973.

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London v-c resigns

Professor Sir Cyril Phillips has resigned as vice-chancellor of London University as from March 1976. His decision has been accepted by the university Senate. Professor Phillips has held the post since 1972.

He is also to resign as director of the School of Oriental and African Studies in September 1976. The Senate will elect a new vice-chancellor in March.

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'Teaching companies' in engineer training plan

by Alan Caine

The Science Research Council, in collaboration with the Department of Industry, is soon to decide whether to establish "teaching companies", analogous to "teaching hospitals", to improve the supply of qualified engineers for industry.

It would mean this establishment of a new and independent organization to coordinate and promote the scheme. Its responsibilities would include:

- Recruiting and seeking out approaches from companies and universities in which the objectives, the expertise, and the personalities give scope for successful combinations of training and advance in manufacturing practice, to develop a balanced and changing portfolio of programmes.

- Foster good relations with professional institutions, the Engineering Industry Training Board, research associations and other interested bodies.

- Help trainees to find jobs in suitable companies and keep in touch with their subsequent careers.

In an introduction in the report of a working party under Professor L. Moulder of Newcastle University, which developed the idea of teaching companies, Sir Sam Edwards, SRC chairman and Sir Isaac Moddock, chief scientist at the DoI, claim that British manufacturing industry is not getting the qualified engineers it must have to maintain its position in world markets.

They go on to describe the working party's solution: "Selected well-managed and successful manufacturing firms should, in partnership with university and polytechnic departments, become teaching companies."

"In these companies, young

engineers under the supervision of industrial and academic staff would receive training at postgraduate level in the advancement of manufacturing engineering, and would help in the carrying through of advances in a real trading firm. Their practical work in the firm would be complemented by instruction at their university or polytechnic.

"The cost of the programme would be shared between the Science Research Council, the Department of Industry and the co-operating firms and educational institutions."

Two universities, Salford and the University of Technology, are already involved in a pilot project with a Lancashire mechanical engineering company, which is expected to begin early in 1976. Engineering trainees will be given a broad-based education, including production control and quality control.

The working party suggested that a portfolio of programmes should be running in 10 companies by 1976. The cost of the scheme, to be shared between the SRC and the DoI, could exceed £2m by 1980.

The SRC and DoI are anxious to receive comments and queries from those interested in the scheme and these should be addressed either to the SRC at PO Box 18, Swindon SN1 5BW, or the Research Requirements Division, DoI, Abell House, John Hall Street, London SW1P 4LN.

Extra £1m for arts

The University of East Anglia has received an additional gift from the Sainsbury family of £500,000 towards the visual arts centre to be built at the university over the next two years.



Mrs Cavalline Cox: subversion fear.

Warning of attack by 'new totalitarians'

by Sue Reid

The National Council for Educational Standards is to make a strongly worded protest to Mr Fred Mulley, Secretary of State for Education and Science, over enforced membership of student unions within higher education. It is demanding that membership of the unions should be made voluntary to allow more freedom of choice among students.

The call to end compulsory union membership, which applies in all but a handful of polytechnics and universities, came at a one-day conference of the council in London last week. Members voted to send a written protest to Mr Mulley expressing their concern over the lack of freedom in higher education and calling on him to change the union membership ruling.

The controversial decision was taken after Mrs Caroline Cox, one of the three authors of *Rope of Reason*, had told the conference, which was considering subversion in higher education, that freedom in polytechnic universities and schools was under attack.

She and a fellow author of this book, Mr John Marks, said there was an urgent need for a national policy on higher education.

"We would urge the setting up of a national working party, or even a Royal Commission, to consider the formulation and application of a national policy with regard to a bill of rights and responsibilities designed to enshrine and protect basic freedoms," Mrs Cox told the conference.

Mrs Cox claimed that in certain parts of higher education a real attack on freedom was under way, with the assault coming from the new totalitarians of the Far Left. The union attackers of the present day, she said, were the Marxists among students and staff.

She added: "The Far Left has been shrewd and realistic in realizing the enormous significance of the education system both at school, college and university levels. In higher education the ground is especially fertile, for many degrees and diploma holders will move into key areas of society where their influence may be devastatingly effective. These are the potential leaders in the media, industry, politics, and the churches, as well as being the teachers and social workers of the future."

Professor Brian Cox, secretary of the council, told the conference that there had been a fall in academic standards since the introduction of comprehensive education in Britain. The chance of working-class children winning a place at university had declined, and this situation was likely to get worse.

In the last few years the lowering of standards in the schools had begun to influence universities, Professor Cox said. He revealed that applications for university places were falling drastically in two key subjects, and named French, Latin and mathematics as examples.

Moving 'down under'

Dr Timothy Glover, director of the unit of reproductive biology at Liverpool University, has been appointed foundation professor of reproductive anatomy at the University of Queensland, from January 1976. Dr Glover will continue his work on the reproductive system and will study aspects of reproduction in species of economic importance.

Higher fees recommendation gets mixed reaction

The National Union of Students has openly condemned the report on university tuition fees published recently by a working party set up by the Committee of Vice-Chancellors and Principals and the University Grants Committee. It criticizes the report for not making a ruling on overseas students' fees, and claims that the recommendation to increase tuition fees generally will cause hardship.

Mr Alan Stewart, deputy president of the NUS, said: "One can only assume the CVCP is happy with the present system of discrimination against overseas students which the union deplores."

However, the report, which calls for an increase in student fees in line with the rising costs of running universities and tentatively suggests that there may be a case for raising overseas students' fees as well, has been wholeheartedly welcomed in some other quarters.

Dr Keith Hammons, secretary of the Conservative parliamentary higher education committee, said he was in favour of overseas students' fees being adjusted to a realistic level. It was not the job of the Department of Education and Science to subsidize overseas students, the department's resources should be for the upkeep of standards at the universities which were likely to face the economic squeeze again.

He suggested that poorer overseas students should receive special aid in enable them to enter higher education in Britain, but rejected the theory that Britain benefited when overseas students came to study.

Dr Hammons, who felt that all students' fees should be raised in line with course costs, added that immediate action should be taken concerning overseas students.

The report was also welcomed by the Overseas Students Affairs (OSAs), which said: "It is refreshing that there has been no question of the working party adopting a 'narrow accountant's approach to the existing subsidy to overseas students. It praised the recommendation that adequate hardship arrangements should be continued through 1976-77."

A similar committee at Oxford is now seeking counsel on the report and its expected influence on the university's colleges.

While allowing the single-sex colleges to continue, the Act is likely to bring pressure to bear on Oxbridge colleges which are in the process of becoming mixed institutions.

These colleges may apply for a conditional exemption order, which would allow them to continue to operate as single-sex colleges, but only if they agreed to spread the process over a period of years.

But the main provisions of the Act, dealing with employment, will apply to the colleges, most of which employ either male or female staff. It will be unlawful to discriminate against a woman lecturer or the advertisement, appointment or promotion stage on the ground of her sex rather than her qualifications.

The same ruling will apply to female colleges regarding the appointment of men.

But some Oxbridge single-sex colleges are now considering schemes which will allow them to continue as normal without breaking the new laws.

At the discussion stage of the Bill it was feared that an all-male college, for instance, might be precluded from refusing a fellowship to a well-qualified female applicant, or vice versa. The Act does not clearly state this, but some colleges have sought legal advice and taken the matter up with the Home Office, the Department of Employment, and the Department of Education and Science.

At Somerville College, Oxford, where the fellows are female, the matter has been resolved for the present. The college has taken legal advice, and has been told that it can

continue to appoint female fellows only.

It plans to advertise fellowships without any reference to sex, then refer applicants to the statutes of the college which make the firm of fellows only ruling. Other Oxbridge colleges are likely to take similar courses of action to avoid breaking the law.

Some colleges have already altered their statutes to permit the appointment of fellows of either sex. Balliol College, Oxford, now has three female fellows and New College, Oxford, has one.

On while some Oxbridge colleges have gone a little way towards preparing themselves for the possible implications of the new Act, others seem to be ignoring both the Act and its possible implications.

Academics in favour of a complete change to mixed-sex colleges are critical of the attitude of the authorities at both Oxford and Cambridge.

The handful of colleges already in the process of taking in students of both sexes may be the hardest hit by the Sex Discrimination Act. They are likely to favour spreading the change from single-sex to mixed-sex over a long period, and it will be up to them to apply for a special transitional order and negotiate a "time-out" with the sex discrimination watchdog, the Equal Opportunities Commission, which will be in full operation by January.

Whatever the outcome of the new Act and its influence on the Oxbridge colleges, it will allow widespread changes in the way universities and colleges operate, through the courts, or through an industrial tribunal, if they think there has been unfair treatment by the colleges on the grounds of sex. There will, say the legal experts, almost certainly be a test case in the near future, and many well-bathed Oxbridge colleges will be in a state of flux.

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French with A-level tears

Results attained by students in French A level are not necessarily an accurate guide to subsequent university performance in the subject, Professor Arnel Diverres, of the University College of Swansea, has maintained.

Giving an inaugural lecture entitled "French at the University," recently Professor Diverres claimed one of the main problems facing universities was the great disparity in the linguistic attainment of students on admission.

A-level results were not an accurate guide to performance because there was often no correlation between the standards reached in language and literary studies.

Universities, he added, should not only take the overall mark each student attained in their A-level French examination.

He revealed that a first step towards solving this problem had been taken in Scotland.

A group of university teachers of French from Scottish universities had held a series of unofficial discussions with a group of secondary school teachers to decide what points of French grammar pupils could be expected to attain.

A list was drawn up and submitted to official bodies for their views, said Professor Diverres. However, he added, there were dangers in this approach because while the list was intended to outline the minimum standard in the minds of some teachers this had a habit of becoming a maximum.

But, said Professor Diverres, a satisfactory answer could never be found. A group of schools and universities searched for a solution together. In the past collaboration between the two had been woefully lacking.

One consequence of the initiative taken by the Scottish universities was collaboration with the Institut Français d'Écosse at Edinburgh which had been working to devise a five-year course in which both the spoken and written languages would be a place.

In the past, said Professor Diverres, French departments had tended to concentrate too exclusively on literary language, sometimes even ignoring the common core of general language which had to be mastered.

The year students spent in France during their university studies was essential since it provided the opportunity for total immersion in the language.

School of surveying

A separate school of surveying has been created at Kingston Polytechnic as part of its new academic structure. It will be one section of the new division of architecture, planning and surveying.

The school, originally part of the Ewell Technical College, has now been part of the polytechnic. School of Civil Engineering.

The "ministry" of the peer review, in the competent assessment of proposals for scientific research submitted in search of financial support would be the main thing by another name, he said. "Scientists are irascible. If a policy is not to be completely non-sensical or just another way of distributing the spoils of office to favourites and protégés."

Nevertheless, Professor Shils feels the system could be improved. Rejected proposals should be sent back to the author for a second panel. The panel of experts of assessors should be limited, and the pool of scientists used should be widened.

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New mixed colleges at Oxbridge may bear brunt of Sex Discrimination Act

by Sue Reid

Single-sex colleges at Oxford and Cambridge may escape the full brunt of the Sex Discrimination Act when it comes into force at the end of the year. Under the new law they will not have to become co-educational, but their aged students are likely to give protection from the Act's rulings on employment of staff.

Copies of the Act have already been circulated at both the universities. At Cambridge, Mr Bob Hepple, a Fellow of Clare College and an expert in law, has prepared a special report on the implications of the new Act for the university's committee of colleges. It will be considered by the committee early next year.

A similar committee at Oxford is now seeking counsel on the report and its expected influence on the university's colleges.

While allowing the single-sex colleges to continue, the Act is likely to bring pressure to bear on Oxbridge colleges which are in the process of becoming mixed institutions.

These colleges may apply for a conditional exemption order, which would allow them to continue to operate as single-sex colleges, but only if they agreed to spread the process over a period of years.

But the main provisions of the Act, dealing with employment, will apply to the colleges, most of which employ either male or female staff. It will be unlawful to discriminate against a woman lecturer or the advertisement, appointment or promotion stage on the ground of her sex rather than her qualifications.

The same ruling will apply to female colleges regarding the appointment of men.

But some Oxbridge single-sex colleges are now considering schemes which will allow them to continue as normal without breaking the new laws.

At the discussion stage of the Bill it was feared that an all-male college, for instance, might be precluded from refusing a fellowship to a well-qualified female applicant, or vice versa. The Act does not clearly state this, but some colleges have sought legal advice and taken the matter up with the Home Office, the Department of Employment, and the Department of Education and Science.

At Somerville College, Oxford, where the fellows are female, the matter has been resolved for the present. The college has taken legal advice, and has been told that it can

continue to appoint female fellows only.

It plans to advertise fellowships without any reference to sex, then refer applicants to the statutes of the college which make the firm of fellows only ruling. Other Oxbridge colleges are likely to take similar courses of action to avoid breaking the law.

Some colleges have already altered their statutes to permit the appointment of fellows of either sex. Balliol College, Oxford, now has three female fellows and New College, Oxford, has one.

On while some Oxbridge colleges have gone a little way towards preparing themselves for the possible implications of the new Act, others seem to be ignoring both the Act and its possible implications.

Academics in favour of a complete change to mixed-sex colleges are critical of the attitude of the authorities at both Oxford and Cambridge.

The handful of colleges already in the process of taking in students of both sexes may be the hardest hit by the Sex Discrimination Act. They are likely to favour spreading the change from single-sex to mixed-sex over a long period, and it will be up to them to apply for a special transitional order and negotiate a "time-out" with the sex discrimination watchdog, the Equal Opportunities Commission, which will be in full operation by January.

Whatever the outcome of the new Act and its influence on the Oxbridge colleges, it will allow widespread changes in the way universities and colleges operate, through the courts, or through an industrial tribunal, if they think there has been unfair treatment by the colleges on the grounds of sex. There will, say the legal experts, almost certainly be a test case in the near future, and many well-bathed Oxbridge colleges will be in a state of flux.

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"Of course, changing our statutes to allow female fellows will be a complicated and long-drawn-out operation—have you considered changing your sex?"

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Churning out square pegs for round holes, says Heath

by Frances Gibb

The British system of education still reflects the priorities of a bygone age, Mr Edward Heath, MP, told the Federation of Conservative Students' conference in Edinburgh last week.

It was failing to produce the kind of people that our industry needs to survive. "Although the sun has set on the British Empire, we still seem to be producing a stream of administrators to govern the empires which no longer exist," he said.

Fewer than one graduate in four goes into industry and less than one in 10 enters commerce, he said. Yet it was estimated that between 1966 and the early 1970s the working population with a degree will nearly double, from 750,000 to almost 1,500,000.

Science places in universities and colleges remain unfilled, he said. "With thousands of round holes waiting to be filled in science and technology, our universities and schools are churning out countless square pegs."

The British's livelihood depended on industry and commerce, more than ever. Private enterprise provides more than 70 per cent of the country's employment, and sells more than 90 per cent of British exports.

Some degree of specialisation within schools should be possible, to enable pupils to follow their interests whether academic or vocational, he added.

Together with the Association of Teachers in Technical Institutions, the associations say that like the present regional advisory committees, the proposed FEACRs are not representative enough, and outside bodies should have larger representation. They propose one-third representation from the local authority, one-third from the teaching profession, and one-third from outside interests such as industry and commerce.

The Committee of Vice-Chancellors and Principals, in their guidance to the DES on the CLEA proposals, urge this week that the interim regional coordinating committees on teacher training should be set up as soon as possible.

"The committee attacks very great importance to the early establishment of the RCTT in order to coordinate the activities of all concerned, in both the university and non-university sectors, as free-standing bodies reflecting the uniqueness of arrangements for the education, training and professional induction of teachers."

But any move to set up the regional bodies while discussions on devolution and local government finance were going on would be wrong, they say. They urge that no decisions be taken without full discussion of the problems involved.

One objection is that CLEA does not recognize that full-time higher education is a national rather than a regional matter, and that in providing for it the regional advisory councils have no realistic part to play.

Dr Sloman said the universities' main fear was that unreasonable demands were being made on them. Despite their efforts in reducing unit costs, increasing the number of students while keeping staff numbers down, the universities record as centres of scholarship and learning still unrecognized.

British universities still had an unrivalled research record, university admired standards, short courses and a failure rate among the lowest in the world. But greater provision for students was required over the next few years.

"We shall repudiate the Robbins principle at our peril. Whatever else we may exclude from our curriculum, industrial training it must be that we need more, not less, men and women who love the education and training which higher education provides."

Universities should pay more attention to this crucial of wealth and less in spending it, the court at Nottingham University was told last week.

Dr G. T. Hobday, president of the council, told the court that some sectors of present-day society which believed passionately that sufficient could be provided, provided as meet their needs and opinions were often unashamedly antagonistic to the means by which the national wealth was created.

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STUDENT ESSAY

Compare and contrast Gide's *L'Immoraliste* and Camus's *L'Étranger*. These two books both share a lot in common together. Both have protagonists who are not common people, and are narrated by the author instead of a third person. All the names of the main characters begin with M. Michel and Marceline, Meursault and Marie.

Gide wrote *L'Immoraliste* to try to prove that he was normal. In this book he is bisexual while Camus was just heterosexual but he loved his mother too much so both are odd but in different ways.

Both heroes treat their women badly, but Gide's Michel wants his friends to sympathize with him and Meursault says it does not matter—that is his keyphrase—but at the end he says if he had any he would rather they hate him.

The end of *L'Étranger* is hard to understand because it is ambiguous, with lots of oxymoronic phrases like *wolcome* with hatred, tender indifference, etc, like the beginning which starts in the present and then becomes perfect.

L'Immoraliste is imperfect at the beginning and hard to understand throughout. Gide's style is slower, interrupted by colons and commas. Camus uses short, sharp sentences, separated by full stops.

Both structures are very clever. First Michel gets TB and does not realize—then his wife gets it and does. There is also a preface to be read after you have finished which tells you what not to think and a central part where he meets Meursault, whose name also begins with M. to tie him up with the main characters. Perhaps that is why Meursault calls his mother Maman with an M.

Camus lets you get straight to the story. He divides it into Part One and Part Two with just one stupid murder in the middle and then he is in prison and you can understand why it is an absurd novel. In *L'Immoraliste* you can't understand what Michel thinks, because you don't know when he is deceiving himself or his wife or his friends or the reader. This is called an absurd technique.

So both Gide and Camus have written very good books which tell you about Africa but as they were very different types of people there is a lot to think about in both of them. There is a lot to think about in both of them. Elspeth M. Atkinson, Lecturer in French, University of Glasgow.

Philosophy essay: "Universals"
Aristotle saw universals as existing "in re" and not "ante rem", a piece of philosophical jargon which is certainly impressive although somewhat bewildering for the poor student. Aristotle also said that the soul entered the body at the moment of conception.

Locke's view was conceptualism which is best explained by contrasting it with Hobbes who was a nominalist. Leibniz held a different view. The former two views lack a basis in reality while Leibniz is not convincing to the modern mind.

Wittgenstein had never read Aristotle, but yet equates with him to some extent, although he used the example of a game, this illustration occurred to him when he was passing a football field, just as the illustration of the car crash occurred to him in the West. Wittgenstein's view is that language is a series of words which are not a mere game to be played when we have nothing better to do.

Plato criticized Wittgenstein's theories by claiming that the soul is reincarnated, a doctrine that appeals to many people today, however, it may be difficult to accept. The point is that philosophers still do not agree on this question and until they do it is impossible to decide.

In conclusion, the question is, can any of these theories of universals really be universal? If it cannot the theory is self-contradictory, but if it can, the problem is not solvable. The point is that philosophers do not seem to have agreed on this and are attempting to solve problems which are irrelevant and not of universal interest.

More than 30 entries were received for *The THES* Christmas Competition. We thank all readers who contributed. The winners were: Miss Atkinson (worst student essay), Mr Budden (the next speech by Lord Crowther-Hunt) and Mr Berry (Don's Diary).

The runners-up were: Dr G. D. Chryssides (worst student essay), Mr David Coward (book review) and Mr Eaton (Don's Diary). A selection of entries is published this week. More will be published next week in *The THES* of December 24.



DON'S DIARY

A fragment of Don's Diary.
Anget intensified at breakfast. Why should TLS dismiss incontinent Clergy with eight inches of drive by a lack from Hugh? Miranda scornful over lost. Torpedoes idea of retroc splenic in correspondence column as only providing further evidence of literary incompetence. Her turn to take everyone's babies to nursery, so wait half-hour for bus. Full of expectant fathers.

11.00. Wehrharmt smirks over coffee. He's read it, damn his eyes. Dodgie to bide my time before revealing I was at school with Anthony Archer and Frank Warner. Heycock back from week's entertaining at Oxford. Try him with old joke: "Hear you've been riding on Quinon's?" Usual urbane response: "No, just getting in everybody's Ayat."

Noon. Give class on "Lent Images in Bourbon Ethnography". Front row (bearded)



BOOK REVIEW

The BE in European Literature: options and fictions by R. Q. Lugg. Council for Research and Allied Projects, £5.50.
One need do no more than glance at the table of contents of Lugg's study to see the limitations of his approach, and a rapid perusal of any random page confirms that this is a young man's book. Lugg's major mistake was to assume that bed studies may be bolstered by quantification. But what do we learn about the present of the past by being told that the book is currently selling in this or that percentage of universities?

The present reviewer confesses to considerable difficulty in detecting the relevance of some of the "statistical" evidence. (In Fraser's phrase) assembled here, though the diagram on page 73 is very useful. Lugg does not summarize competently enough the old learning in the field as well as much of the new. I say "much" advisedly, since the author chooses to ignore or underplay what Jones has called the "recent research" done in France by E. Fagot (*Motivats et Motets*, 1975), and in England by the present reviewer (*The Bed in French Literature*, 1974).

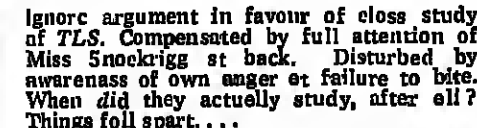
Lugg is only occasionally rational and, second, he is rightly called the "bedrock" of Russian studies (p. 1); naturalism is correctly described as a "blanket term" (p. 2); the French do arguably provide the "broad matrix" of primary study, though to say that they offer a "patchwork quilt" of achievement is surely needs amplifying. *Effi Briest* and *Madame Bovary* might make "uneasy bedfellows" (p. 1), but this, like many other judgments, is insufficiently developed. Lugg's concluding sentence gives the title of his dogmatic name: "The BE in European Literature offers a fertile breeding ground for the new generation."

The most curious inspection reveals that the author has failed to take advantage of the facilities which (as those of us who are under contract to GRAP will not need telling) it is the custom of the publishers of this handsome, well-printed, and modestly priced volume to provide. Lugg's wife has underlined the index which records Linking Study, but not Lermontov. There is evidence of careless proofreading: for BEB read bedchamber. The bibliography omits, among others, my *Bedrooms and Bedrooms*, the *Brontë* again (1972). The book is too short for the scholar and too long for the general reader.

Yet at the end of the day the publishers of this provocative study must be congratulated on taking a bold initiative. Lugg's volume is not definitive, but it will clarify a stimulating debate. And there are many books which are irrelevant and not of universal interest.

G. D. Chryssides, Senior Lecturer in Philosophy, Plymouth Polytechnic.

Department of French, Leeds University.



DON'S DIARY

Ignore argument in favour of close study of TLS. Compensated by full attention of Miss Snookrigg at back. Disturbed by awareness of own anger at failure to bite. When did they actually study, after all? Things fall apart...
1 p.m. Brendrecht raises quizzical eyebrow over my raised target, approaches in series of rapid smooth swings through intellectual slalom gates. Knows I know. Skins down to thoroughly enjoy commiseration over chocolate semolina. "Too deep to sell anyway", he crosses the beam and offers a light. Must try to cut down, but not yet. Whiteless hat with least from students' union: now insisting on eight subaltern posts. Gillercombe wonders why stop at that: if all students engaged in puerile demsadministration, more time for research.

2.30 p.m. Fleetwith, bright but idle discusses latest gleanings from frontiers of knowledge. Yield meagre. Hopes to be decorated eighteen months from now. Warn him in some danger of having his efforts Blinked. As he exits, comments current TLS and shuts door firmly.

3.45 p.m. Burtress frowns over tea. Stressful AUT meeting in office: indignation walls at every pore. Does, who has w/ Wallace been bled...
4.30 p.m. Bump into Honister while leaving



BOOK REVIEW

The following is a selection of the relevant portions of the recent speech made by Lord Crowther-Hunt to the Federation of Liaison Associations of Teachers at Universities and Schools (FLAUS).

Now let's start with the relevant figures—these are not the number of unemployed, which has now reached five millions. Of course this figure is due to the policies of the last Government, but in view of the present economic circumstances we feel it would be a mistake to decrease it.

Now my job is simply to adapt higher education to the nation's needs—you might say I shrink or stretch Cinderella's foot to fit the glass slipper.

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library. Usually has it in for me since the *Quintessence* affair. Sweeney says he's looking forward to this week's *THES*, and heads for the cinema...

Maryon Berry, Maidstone, Kent.

(Dr Minton has recently returned to his university department after exchanging posts with a schoolteacher)

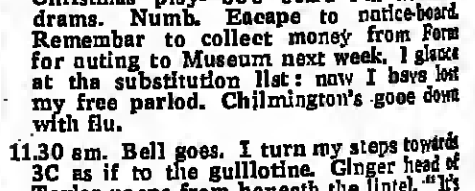
Monday
7 a.m. Woke up screaming. Dreamt about 30's riot in my drama lesson last Thursday. 7.30 a.m. Alarm goes... I've not managed to get off to sleep again. Been ruminating on the confrontation with my Headmaster, "Dr Minton", he said, "I feel bound to point out, bearing in mind that you're never taught before, that quarter past nine is a little late to arrive at school."

8.55 a.m. Mark IB's register. Strange that all the names are answered when half the desks are unoccupied...
9.00 a.m. Assembly. "Teach me my God and King"—Herbert: a metaphysical send-off. Strange. In ten years' university teaching I've never prayed once. Now I pray whenever it's 30.

9.30 a.m. Chaucer's Prologue with Lady Sixth. Spent whole period discussing the pronunciation of "finel" "e".
10.30 a.m. Silent prayer. Deep breath. March off to 3C. Very disappointed when I say it's not drama today. "Can we do contraptions instead, sir?" I parry the inquiry into my love life. As I reach for my English through *Experiences*, Jones offers me a cigarette. I decline. Right back out near the back. Chorus chaos. "We wait drama! We wait drama!" I give them drama and am rescued in the nick of time by a colleague who spends the rest of his free period sitting in.

11.15 a.m. Break time. Free exit period with 3C. Dickenson, the Deputy Head, Naver has morning coffee tasted sweet. Head corners me. Could I check latest Christmas play—be's beard I'm keas of drama. Numb. Escape to noticeboard. Remember to collect money from Form for outing to Museum next week. I glance at the substitution list: now I have lost my free period. Chilmington's gone down with flu.

11.30 a.m. Bell goes. I turn my steps towards 3C as if to the guillotine. Ginger head of Taylor pape from beneath the Intel. "It's Munday! More drama boys!" Trevor Eaton, Hythe, Kent.



BOOK REVIEW

MON. 2.15—Lying in bed contemplating the wonders of naval technology while making up the honour of being asked to compose Don's Diary. (I wonder if I could list it with my other publications.) Have been dubbed a "Polydon" by people who dislike my type, who feel their status, empires and salaries dwindling away. Mmm... Polydon... sounds like a academic filler to plug the cracks in the facade of higher education. Or even a late day diaphanous...

10.30—Arrive at the office. A head of department shouldn't show indecent haste in arriving. Rule 1 of the Polydon—show 'em who's boss.

11.00—Usual mountain of paper from the Dean, including his interpretation of my last DES circular. (Seems the word of polytechnics is moving in an interesting direction.) Pull of references to FTEs. One to sailor course tutor for action.

11.30—Switch on "Engaged" light over office and flick through the job advert. TUES. 10.30—Department's CNA. I agree to a seminar course tutor for action. I agree to a seminar course tutor for action.

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Don's diary

In the wards

Once when the world was very young and I was made a foundation professor in a new Australian university, I thought I was going to be a don. I saw myself engaged in all the academic pursuits that my reading, if not my experience, had conditioned me to: pushing principles around until their edges were worn down; organizing ideal courses independent of restrictions and modulations; having a continual dialogue with my ever eager, new book students.

In addition, I would be surrounded by exciting academic minds, bubbling away in the vat of a nascent university culture. I would learn, contribute, participate in a furnace of ideas and a forge of achievement. As any sane clinical academic knows, it was not like that at all.

Life for me became dull and although a new university always throws up challenges—often too many—they were not the intellectual ones that I had dreamed of. Gradually, I slipped back into my proper role—a non-don and clinical monster at that.

Now that I work in what amounts to an autonomous medical school within the loose federation of London University, my role as a professional and an absence of true academic characteristics is even more marked, even though I bear the title of professor. Here is how it is:

Monday
If you want to write or edit while occupying a clinical chair it behoves you to rise early. London is quiet at 6 a.m.; only the milkmen at 7.15 a.m. disturbs me. The routine starts at 8 a.m. with a visit to see sick patients, principally a man without his kidneys who has had a disastrous colon complication and is now being jockeyed along quite satisfactorily. So I may see him at eight, my lecturer has done so at 7.30.

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the self-imposed demands of research; the obligation of teaching. These are the main of the clinical academic and it is morally arguable that having chosen this course he should not complain.

Of course, the flaw in any reasoning about relating salaries to clinical work is that the NHS employee to whom any salary is general has basically only two of the four areas which we are supposed to encompass. Hence, the argument for a separate determination of one independent—however unpalatable this may be—from our non-clinical colleagues. Many would not agree with this in principle though it is a fact of life in practice on all three continents where I have worked in academic surgery.

The rest of Thursday is a good day unless in this instance something does not quite go right in the afternoon. The evening. Now one of our "majors" is being handled by some of some complex clothing disfigurement. Spend most of the day worrying about it and shilly-shallying about this need to go back home.

I suppose inability to divorce oneself from such problems—which by and large are best handled by the men who are "in the wards"—is a sign of academic weakness, but it does underline the difficulty of trying to combine academic activity in teaching and research with the practice of medicine.

I always feel that this is particularly difficult for the surgeon who, if he is to hold up his hand in his profession, must spend long hours in the operating theatre and be put on an on-call rota (as always) and hasten to an appointment with the doctor who should be related only to major crises. Nevertheless, I feel better for this catharsis.

Emerges at 5 pm with bloody unrelenting through forgetting to put on an on-call rota (as always) and hasten to an appointment with the doctor who should be related only to major crises. Nevertheless, I feel better for this catharsis.

Friday
One of the possibilities of clinical teaching is to show the student what the social patterns of the patient in a hospital are. One can see a case of piles, or a cancer of the stomach, or just a nuisance with the belly ache.

Conducting a joint teaching session with social workers and accountants is a delicate affair. One is in a position of having to deal with a sociological jargon as I can say even though we have been doing this session for 10 years, I am always uneasy that it will get out of control. It is a success for us, who have no idea of what the hierarchy of knowledge might be.

The result is that the old-fashioned belief that all children should have the same schooling, as this has been the most obvious element in federal intervention—one's overall view is that it has not itself done so much difference. Black students and their parents are a more obvious element of the picture.

Parents who can afford it are sending their children to private schools, even in areas like the North West with no previous tradition of private schooling—the same phenomenon can be observed in the State of Washington and in neighbouring British Columbia. And in countries where every child has not been dignified by calling it anti-discrimination, no degree appears to be attached to parents who make this choice for their children, any more than to students who prefer the private to the state universities, or who are often excellent academic grounds.

Indeed, if one wanted to do a twentieth-century John D. Rockefeller or Henry Ford, the creation of a new chain of private secondary schools in North America might be a quick way to a fortune.

However, a word of warning is in order too. So deep are the roots of "progressive" educational theory that one cannot be certain that private schools will not make many of the same errors if at a more advanced level.

One finds a 16-year-old in an expensive New York private school, with no idea at all of what a twentieth-century society was like, or of any of its intellectual landmarks, set to grapple with Engels on "the family" as weekend prep; or a child who took little French to make ordinary conversation set to read *Sartre's* *Being and Nothingness*.

The motto is "debile, dabblo" but never learn thoroughly, least of all grammar and spelling... It does not make things easy for the universities. No doubt the teachers get a kick out of it. If one has not been around the United States campuses for a little while, one is struck all over again, by the lavishness of the physical provision, particularly of that made for students. And the pampering

H. A. F. Dudley

The author is Professor of Surgery at St Mary's Hospital, London.

A pleasant taste of transatlantic independence

It is curious that the universities of North America which are on so different a scale to our own, and which cater for so very much larger proportions of the population should give us food for thought about our own condition, and even echo some of our own domestic problems. It is now 27 years since I began my course of immersions in the transatlantic atmosphere and each time, the feeling of sameness within strange surroundings.

It is partly that youth is so much affected by changes in the economic and social climate and so conformable to whatever the currently fashionable trend happens to be. It was thus not surprising to find that all the excitements of recent years in the sense of ruptions of student protest have left very little trace. This generation of students—as well as the United States—is career-oriented in its choice of subjects, infatuated in its behaviour, less farouche in appearance, and in the opinion of its teachers, rather dull.

The worries of academics about their students are no longer, or rarely, that they are at risk from the different levels. On the whole, the universities—state and private—still cleave to the idea of basic skills and an ordered hierarchy of knowledge.

The school systems in many states—especially in the neighbourhood of high school from which the universities mainly recruit—the American model for our unexamined comprehensive schools—is dominated by educational theorists who have no use for basic skills, and who have no idea of what the hierarchy of knowledge might be.

The result is that the old-fashioned belief that all children should have the same schooling, as this has been the most obvious element in federal intervention—one's overall view is that it has not itself done so much difference. Black students and their parents are a more obvious element of the picture.

Parents who can afford it are sending their children to private schools, even in areas like the North West with no previous tradition of private schooling—the same phenomenon can be observed in the State of Washington and in neighbouring British Columbia. And in countries where every child has not been dignified by calling it anti-discrimination, no degree appears to be attached to parents who make this choice for their children, any more than to students who prefer the private to the state universities, or who are often excellent academic grounds.

Indeed, if one wanted to do a twentieth-century John D. Rockefeller or Henry Ford, the creation of a new chain of private secondary schools in North America might be a quick way to a fortune.

However, a word of warning is in order too. So deep are the roots of "progressive" educational theory that one cannot be certain that private schools will not make many of the same errors if at a more advanced level.

One finds a 16-year-old in an expensive New York private school, with no idea at all of what a twentieth-century society was like, or of any of its intellectual landmarks, set to grapple with Engels on "the family" as weekend prep; or a child who took little French to make ordinary conversation set to read *Sartre's* *Being and Nothingness*.

The motto is "debile, dabblo" but never learn thoroughly, least of all grammar and spelling... It does not make things easy for the universities. No doubt the teachers get a kick out of it. If one has not been around the United States campuses for a little while, one is struck all over again, by the lavishness of the physical provision, particularly of that made for students. And the pampering

Max Beloff

Professor Beloff is principal of the University College at Buckingham.

that goes on is almost as great, if not greater, in the tax-supported institutions.

It is at least gratifying that alongside the enormous studio and student unions, one now has humbly equipped art centres, student theatres and other attempts to show some respect for the non-material. What one does come up against rather more clearly in the States is that this lavishness in respect of student facilities is in some respects at the expense of their teachers who, with little say in their government, have almost none in the allocation of funds. Even very senior teachers have "offices" that compare badly with what most British professors would expect, let alone explain why they keep their books and do their own work at home, and are so little in contact with students outside formal class hours.

It also means that teachers get less consideration when it comes to meeting the consequences of inflation. It comes as a surprise to anyone looking at the lavishness with which the universities are equipped, to find out that university teachers are cancelling their subscriptions to *Learned Journals* (many of which are in a parlous state) rather than pay the necessarily onerous subscription rates of today. Hence discontent and "unionisation" bringing new problems.

In the private sector, the administration has to keep on the right side of some types of the factor, in the public sector it has the more difficult task of keeping the state legislature sweet. A university head who fails in this may damage his institution in quite real ways.

Thus, just after the University of Arizona completed the building of a splendid new library, its president had to decide not to vote the money to put in the shelves—so there it stands empty until the legislature comes again and presumably repeats.

The Federal Government's sphere of activity, apart from research contracts, is still limited and its skills and its influence are still in the shadows. Though its norms can effect private and public institutions alike, Brigham Young University (the invisibly endowed citadel of the state) is in the process of renouncing its federal subsidies to impose its standards of personal morality and religious observance upon its student body. It can afford to.

Where "positive action" to end discrimination is concerned, this has been the most obvious element in federal intervention—one's overall view is that it has not itself done so much difference. Black students and their parents are a more obvious element of the picture.

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David Walker finalizes his hypothetical pecking order of English universities

Old familiars stay at the top

However controversial the idea of a pecking order of universities might be, it cannot be denied that some institutions come out near the top of every scale that is used, from students in residence to engineering research, medical teaching, library books, staff honours and A-level grades.

Using the kind of grading schemes described in last week's article, *The Times* has arrived at a list of top English universities. The measures are too imprecise to allow it to be called a top ten; better call it a top seven or eight universities just beneath it in the rank order.

The list would start with a group including Manchester, Leeds, Oxford, Cambridge, Birmingham, Nottingham and London University taken as a whole. The next group would have Liverpool, Sussex, Sheffield, Bristol then Reading, Southampton and Essex before our admittedly arbitrary cut-off point.

Such a list contains few surprises to those well versed in academic chit-chat. To some people it will smother of discrimination which contravenes the block grant principle on which the modern British university system rests.

But if the idea of a pecking order is discriminatory, it is no more so than a reflection of the kind of subjective judgment that academics make in appointments and distribution of research grants. In the great study of academics by A. H. Halsey and Martin Crox, such a pecking order was found in academics' preference: most of them would swap a professorship at a provincial university for a lesser post at Oxford, and so on down the line.

More importantly, the discrimination is becoming overt, as in the speech by Dr Brockle Hunter of Birmingham University and in hints and off-the-record words from politicians of both parties.

The list we have spatchcocked together can with some interest be compared with the picture of British universities that emerges from this week's discussion from the Committee of Vice-Chancellors and Principals entitled *Universities in a Period of Economic Crisis*. The document was addressed to Mr Mulley, Secretary for Education, and described in glowing terms the aspects of university work that make them such a good bargain.

It singled out medicine, engineering and agriculture as areas of vital importance to the country's well-being and mentioned more than once the universities' function in teaching future doctors and engineers and doing research in these subjects. Other subjects specifically mentioned were veterinary science, law and social work.

Sir Arthur Arncliffe, chairman of the CVCP, decried at a press conference last week there was any special significance in singling out these subjects. He said their selection reflected the conceptions of men of his generation of what the universities were all about. Nevertheless they also give a useful picture of what the CVCP considered the universities' strengths, and our list ought accordingly to reflect this.

Take medicine, and an aggregate measure of teaching and research strength in clinical and pre-clinical medicine and dentistry. The source for these figures is the UGC returns of 1971-72 and so all the qualifications attached to the UGC statistics apply here. However, the UGC figures for medicine do give a useful check through their enumeration of grants to departments from hospital boards, which is a measure of esteem if nothing else.

The table that results includes London, Oxford, Cambridge, Bristol, Newcastle, Manchester, Nottingham, Leeds, Birmingham, Liverpool and Sheffield, the flower of the British provincial universities with long history of involvement with the local community and its health.

London, of course, has to be divided into its constituent institutions many of which have different traditions, and which do naturally vary in their quality. Nevertheless men like Sir Douglas Logan, London's recently retired principal, can testify that the medical schools of places like St Mary's the London Hospital and the Middlesex do form a community of sorts. He spent many hours of administrative effort in the 1940s and 1950s in getting men from both sides and Gyn's merely to talk to each other.

In agriculture and forestry few universities in England offer the subject or do research. This poses the problem that any pecking order will tend to reward the big battalions at the expense of those smaller universities with specialist interests.

However, there are few subjects which exist in such isolation: in agriculture the top universities for teaching and research are Reading, Nottingham, Newcastle then London, Exeter and Oxford. Reading does well on a number of other indicators; Newcastle is strong in medicine, and so on.

In engineering the dominance of the big universities is matched by the apparent excellence of the research tradition at smaller places like Essex and Sussex. "Excellent" in that sense must of course be a quantitative concept and quality being used came from one year none and so do not give a picture taken time.

Taken together the universities "best" in engineering and agriculture together include Newcastle, Oxford, Nottingham, Cambridge, Birmingham, Manchester, Liverpool, London, Reading, and Warwick. The figures available from the UGC for Manchester pose similar kinds of problems as those for London.

How justified is it to treat Manchester University and the University of Manchester Institute of Science and Technology as a single institution? Their interwoven history and shared facilities do provide some economies of scale, but they have different principals. It is probably true that in the final reckoning Manchester University would only be a few places behind the joint institution of "Manchester with UMIST".

The list of top universities in mathematics and the physical and biological sciences has a predictable shape. It includes Bristol, Leeds, Southampton, Liverpool, Manches-

ter, Sussex, Cambridge, Birmingham, Oxford and London, with a fringe of strong mathematics departments at Warwick and Keele and physical science at Reading and Salford.

Some new names appear in the list of universities strong in the social studies and architecture: in the social studies "social studies" in the big universities of Oxford, London and the major civics. In social studies universities such as York and Brunel, Hull and Essex are strong; in architecture Sheffield, Bath and Bristol. The real strengths, however, are concentrated in the big universities of Oxford, London and the major civics.

Two additional measures are post-graduate numbers of libraries. Universities can be ranked in terms of the proportion of their students who are postgraduates and in terms of the proportion of total English postgraduates they have. Likewise on libraries a volume measure—the number of bound volumes—can be linked with library spending divided among the total student numbers and the academic staff.

It is noticeable that the latter measures reward the new universities up well: in 1971-72 large amounts were spent at Lancaster, East Anglia, Essex and Warwick on books, although the total number of books was understandably smaller than elsewhere.

One of the striking things about the above aggregate rank of universities is its domination by the four big civics—Manchester, Leeds, Birmingham and Liverpool. Perhaps Dr Hunter, vice-chancellor of Birmingham, should have added to them, in his stout defence of the civics during the summer, Nottingham, Sheffield, Southampton and Bristol.

But Dr Hunter's main point is seemingly borne out. The civic universities carry a significant amount of the country's applied and pure research with a massive basis in teaching of both undergraduates and postgraduates.

Beyond this, it is possible to say that the "new university" experiment has been at least partly successful, although perhaps not in the way originally intended by the UGC planners of the later 1950s. A university like Sussex takes its place in the top 10 because of its teaching and research in traditional applied and pure science and engineering.

At the end of the exercise, Oxford and London remain. It ought to be emphasized that the schools of London University differ markedly and that aggregating them conceals a great deal: comparing the London School of Economics with Imperial College is easier only than comparing University College with King's.

Nevertheless, a picture emerges of London as a great academic investment which if only in its sheer size, let alone the high quality of many aspects of its work, continues to pre-empt a significant proportion of the money available for higher education in Britain.

The list shows that academics' high subjective valuation of Oxford, Leeds and research is borne out. Our scheme to tie on those who consider they should not get sufficient resources to keep them at the top of the perch.



Can Brunel Willy be foiled by science?

Keeping things safe in universities these days is a major problem. Students going to lectures and using libraries or laboratories bring coats, bags and other personal belongings with them which they leave in cloakrooms or simply throw on the floor. Easy pickings for thieves who have little difficulty in losing themselves in the shifting population of a university. There is no doubt that a lot of pinching goes on. But who is doing it?

Can it be those noxious students discussing the embodiment of President Kim Il Sung's Juche idea (what ever that may be) in the framework of Korean Revolution? They would not be so materialistic.

Could it be those aged lecturers, brooding over their lost differentials, as they shuffle between lecture centre and lecture hall? Or those who, if they lack the sleight of hand, they lack the sleight of hand.

No, it must be the work of a dedicated professional, some individual—let me call him Brunel Willy—skilled in every branch of felony. He is a thief, indeed, one can build up a pretty good picture of Brunel Willy, his likes and dislikes, from the things he steals.

To start with he is a teapooner: of world stature, 6,000 teapoons (on average) removed from the university's treasury every term since 1967.

As university librarians, moreover, I can certify that Brunel Willy has an abiding love of books, with a catholicity of taste in reading which is wholly admirable; although it is true, that one detects a preference for books on psychology. (Perhaps he has problems.)

He likes eggs and tomato sandwiches (one packet stolen from a female student's coat pocket on February 4). He has at least two typewriters (taken from mathematics building last January), probably for typing out his "shopping list".

Obviously a person so conscientiously professional must live close to his work.

He must surely occupy a large house, not 10 minutes' drive from the campus, standing in its own grounds and discreetly shrouded by shrubs.

In fact one pictures him at home in one of those gracious residences for which Gerrards Cross (just down the A40) is rightly known. Perhaps he will be wearing his French parkland riding boots when on April 7, 1974, he checks out his latest additions to his teapoon collection.

Especially grievous to the university librarians are Brunel Willy's visits in the library cloakroom. The library rules prevent readers from bringing briefcases into the library, in case they should abscond with a book or simply throw on the floor. Easy pickings for thieves who have little difficulty in losing themselves in the shifting population of a university. There is no doubt that a lot of pinching goes on. But who is doing it?

But Professor Alan Talbot, head of the mathematics department and a member of Brunel Willy's committee has come up with an idea which is helping the librarians out of his difficulty, and seems likely to have applications in other contexts.

He pointed out that while the library was open, its main issue desk was always manned. Could there be no lockers in the cloakroom to be trod electrically by the issue desk staff? No keys would then be necessary.

Mr G. Ford of the electronics department, unit in the department of electrical engineering developed a control system for the lockers, using magnetic tokens and timing devices. Patents have been taken out and the first installation has been made by a firm in Cambridge.

Readers requiring lockers simply go to the issue desk, where they look up a numbered token, which looks like ball-point pen. Ten seconds later the door of the appropriate locker opens. As soon as it is closed, the door of the locker opens. Ten seconds later the door of the locker opens.

Woe betide the over-eager student who rushes to the locker to find the door is still locked, and waits 10 seconds and is too impatient to wait. In the time it takes to wait, the door is still locked, and waits 10 seconds and is too impatient to wait.

On leaving the library the reader returns the numbered token to the issue desk. As soon as it is returned, the door of the locker opens. Ten seconds later the door of the locker opens.

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Nick Childs

The author is librarian at Brunel University.

David Walker on the background to the university teachers' pay settlement

Already looking for next notch on salaries ratchet

University teachers have at last got their 26-week cost-of-living increase but only after a year of stalled negotiations and pockmarked pay packets. The Association of University Teachers' angry at the Government's handling of their claim.

Not all academics are discontented. Some have had their salaries increased by nearly £1,800 in the space of 11 months. Professor Bernard Crick, of Blackheath College, London, told the world on BBC Radio last week that he was "aggravatedly satisfied" with his standard of living.

Nevertheless 1975 will be looked upon by many as the year when lecturers in polytechnics were awarded major salary increases that took them unjustifiably ahead of the university teachers and when, once again, they fell foul of the Government's pay policies.

The salaries academics are now paid start at £3,176 for a lecturer, rising to £5,446 for a senior lecturer or reader starts at £6,234, rising to a maximum of £7,492 and a professor starts at £7,492. According to the AUT all but a tiny temporary resting place on the way to achieving parity with civil servants in future.

These sums are the final result of negotiations which started late in 1974, when the AUT submitted to the Universities Authorities Panel a set of salary scales which started at £2,359. The panel, which represents the vice-chancellors, rejected the AUT's claim as excessive. The AUT in what is known as Committee A, in a two-tiered system of negotiations which many academics now blame for the tardiness in settling their claim.

The annual council meeting of the AUT, Swansea, which began today, there is likely to be much pressure from delegates to apply to the Advisory Conciliation and Arbitration Service for a way out of the present negotiating structure.

The interesting thing about last year's submission to the UAA was that it made no mention of further education teachers as a group with comparable salaries. The omission is all the more remarkable because

since last Christmas, when the report of the Committee of Inquiry into the pay of non-university teachers, the Houghton Report, was published, the money paid to polytechnic lecturers has been uppermost in the minds of the AUT's negotiators.

The groups mentioned by the AUT in their 1974 submission were civil servants and other administrators. It pinpointed the scientific officers in the Civil Service who could earn with a salary nearly £500 more than the starting salary for academic with similar qualifications.

Then came Houghton which gave further education teachers the salary scales listed in the table: its recommendations were backdated to the beginning of May, 1974, a fact which increased the universities' teachers' sense of relative deprivation when they discovered polytechnic lecturers, often their former students, gaining more money.

The AUT pointed out that such a salary disparity was without any justification when universities could justify a similar increase in pay in polytechnics through external degrees and the subject committees of the Council of National Academic Awards which are stocked with done.

The principle laid down in the Houghton Report and accepted by the Government was one of comparability between the two sectors. In paragraph 162 it said: "The advanced work undertaken outside universities is increasing and we feel strongly that teachers doing work which is similar to that being done in universities should as a matter of principle be paid broadly comparable rates to their university counterparts and have broadly similar career prospects."

In the early part of 1975 the AUT pressed on with the support of the vice-chancellors for its salary claim, which averaged about 18 per cent across the various grades.

In April, Mr Prentice, the Secretary for Education, said in the House of Commons that he accepted the Houghton Report's principle of "parity" between the sectors, a word which according to Mr Laurie Sapper, general secretary of the teachers' union, was "very difficult to interpret from a semantic point of view".

and the Government is still going on.

The month of May saw the first over direct action by university teachers when, across the country, they broke off lecturing for an hour or so at lunchtime to hold protest meetings. Mr Prentice condemned the episode as "irrelevant and unhelpful". However, because negotiations between the teachers, the UAP and the DES were dragging on, the dispute was referred to arbitration.

The AUT claimed a national figure which represented what their salaries should have been in October 1, 1974, plus a settlement for the year since then. Together the elements, which make up the claim in the table, would have given a new lecturer £3,516 and a professor a minimum of £9,495. These estimates of price and wage movements between 1974-75 plus what they actually got from arbitration.

The findings of the arbitration body got caught up with the Government's new out-inflation strategy announced in the July White Paper *The Attack on Inflation*. The paper, which set some people to wondering whether the AUT should have tried to settle quicker.

If the AUT had accepted the DES offer of March-April of scales starting at £2,776, and managed to agree quickly on an appropriate cost of living addition, there is some likelihood that university teachers would now be better off than they are. The going rate in April for cost of living increases was about 20 per cent, which added to the DES offer would have given £3,516 to run from October 1 this year.

However the White Paper superimposed, so, too, did the annual Burmah negotiations for further education teachers which ended with their getting roughly 20 per cent from April 1, 1975.

The findings of the arbitration body, which gave university teachers about 30 per cent on the minimum grade and 20 per cent on the professorial minimum, were known in June and were greeted with euphoria, because the AUT con-

firmly expected 20 per cent cost of living to be added to them.

What became known as Part One together with the cost of living element would have raised the starting salary to over £3,500, restoring a generous margin in the salary lead that some university teachers claim they should have.

However, the Government took the view that this cost of living element fell under its pay policy and would have to be restricted to 25 a week at most. Subsequent negotiations between August and last week concerned whether in fact the cost of living element was agreed before the pay code came into effect, and whether if it was, the DES would in some way promise to recognise the university teachers had been unjustly treated.

It is against this background that the document released last week officially by the so-called committee B, representing on one side the DES and on the other the UAP and the AUT, should be read. It appears to re-examine the principles underlying the arbitration board's findings, which included basing university teachers' salaries at October 1, 1974, on points about 10 per cent above those applying for further education lecturers. However the DES and AUT have drawn contrasting conclusions from it.

The document said: "With effect from April 1, 1975, within the rules of the Social Contract then operating, teachers in further education in England and Wales received in-

creases which took the salary maxima to £4,417 and £7,578 (for a lecturer and senior lecturer).

"I had the re-investments recommended by the arbitrating body as appropriate at October, 1974, and accepted by all parties, been carried forward when university teachers' pay was next revised in October, 1975, their new scales could have been expected to include maxima of £5,950 and £8,400 for these grades. Had the contemplated cost of living increase been added, the figures would have been higher."

The key phrase in that passage, which is understood to have delayed final settlement of the cost of living claim by many weeks, was "accepted by all parties". On the AUT's interpretation it committed the DES to accepting in any future negotiation the salary lead they claim they have over further education teachers.

Meanwhile, the further education teachers are looking to the small but none the less appreciable advantage that university teachers now have, as a possible bargaining counter in their next negotiations, probably next April. In a recent edition of *The Technical Journal* the Association of Teachers in Technical Institutions said the Houghton re-investments would be a determining factor in the negotiations.

For claim is very likely, their next Civil Service comparisons. The salaries ratchet climbs one notch higher.

	Pay at October 1974			Pay at October 1975	
	Univ	FE	Claim	Univ	FE
			Part one plus Full Cost of Living		
University lecturer	min 2,118	2,670	3,516	3,174	3,279
Polytechnic lecturer II/ senior lecturer	2,247 2,412 to			3,378 3,382 3,785	
University senior lecturer	max 4,896	5,412	7,639	6,446	6,417
Polytechnic principal lecturer	min 4,707	5,001	7,352	6,234 6,446 6,662 to	5,940
Professor	min 5,976	6,422	9,300	7,762 7,627	7,578
Head of Department	min 6,105	6,831	9,495	7,897	8,017
	ave 7,257		11,247	9,280*	

* The professorial average is subject to the £8,500 limit for cost of living increase.

Sue Reid reports on how changes in Leeds University's system of government are working

Almost share and share alike after Leeds changes

Rumblings of discontent among junior academics more than a decade ago have led today to sweeping changes in Leeds University's government structure. The university's century-old constitution has been remodelled to give non-professional staff and students a share in the decision making.

The old constitution, introduced in 1905, was becoming outdated by the 1960s. The junior members of the academic staff first voiced this view and the student body took up the same cry.

With no students and only a handful of the non-professional staff on the university senate the power sharing could not be ignored. Long drawn out debates eventually led to 10 years, ended in 1974—the university's centenary year—when a new constitution was introduced.

Among the more dramatic changes brought about by the new constitution have been the increase in student representation on both the university senate and council. The revised statutes allow nine students to be elected to the senate and seven on the student union automatically gaining membership of both.

The move along with a decision to allow students to elect a new representative senate committee was made after long discussions between the university authorities and the students themselves. Now, although the students' union would have been in control of their own affairs, the move has been generally applauded.

The constitutional changes have, on the surface, been equally beneficial to the non-professional staff who, like the students, are elected to senate membership.

like the students, are elected to senate membership.

The statutes now allow 45 members of the faculties to be elected directly to senate and a further 12 to the university council. Only a handful of non-professional staff were eligible for membership of these bodies under the old constitution.

the university professors the picture is, inevitably, not so rosy. Many no longer enjoy automatic membership of senate but instead have to compete in university elections for a seat against their non-professional counterparts.

But fate has played a hand in this situation much to the surprise of the university's young blood. By chance it has been the professors who have proved to be the election favourites, pushing their non-professional counterparts into second place.

On the university court and council have also come representatives of neighbouring Yorkshire universities and Leeds, Huddersfield and Leeds polytechnics. Two representatives of the Trades Union Congress now sit on the university council, a move welcomed by the student body.

The introduction of reserved areas of business at meetings has taken the heat out of any arguments against student participation. This move, approved by the students themselves, allows discussion on staff appointments, promotion and personal affairs to take place in the absence of the student representatives.

While some members of the academic staff and student body voice loud criticisms about the new government structure, it appears that for 15 months, Lord Boyle, vice-chancellor of Leeds University, is outspoken in his approval.

The long debate over the constitution had been going on for five years when he became the vice-chancellor in 1970 and many academics at Leeds feel it was largely through his enthusiasm that the various issues were finally brought out and the new statutes brought

into being.

Lord Boyle says that bringing in a new constitution at an old-established university, such as Leeds, is like the merging of two major motorways. He sees the new constitution as an important step forward for the university and admits to feeling "rather smug" about its success.

However, he is quick to add that not everything has worked out perfectly. "It is possible we have a few too many committees. But I believe that we have managed to get 85 per cent of the new constitution right first time. It has worked extraordinarily smoothly."

Lord Boyle is particularly pleased about the element of student participation, which he believes is of great benefit to the students and the university. "I cannot see anything wrong with the students involving themselves in the university government."

"It is a thoroughly good thing for students, especially those who are not going into professional life or the end of their time at university. Students leave Leeds feeling

more respect for their university because they have been truly involved with it."

He welcomes the polytechnic rap on the university's court and council although he admits that those eligible to attend are often too busy to put in regular appearances. But links between the university and other education institutions in Yorkshire, says Lord Boyle, very important.

Professor Charles Whewell, a pro-vice-chancellor of the university between 1973 and 1975, has seen the old constitution and the new constitution at work. He believes that the most important element of the changes has been increased involvement of both the academic staff and students.

"The senate is now a much more representative body. People don't use their position on it as a sounding board for their own eccentric interests. Both staff and students make useful contributions."

He is the first to admit that 10 years was an extremely long time to reach agreement on a new constitution. "It should and could have

taken less time but it was essential that there was thorough discussion. It was the consequence of the way certain topics arose and, of course, we did have a change in vice-chancellor during that time."

Professor Whewell remembers that the first demands for a new constitution came from the non-professional staff who felt that the professors had no automatic right to sit on the senate.

In spite of the initial strength of the student call for representation in the early 1970s, the situation is oddly different now. Some students elected to the senate have only made odd appearances—a major complaint of the students' union.

The constitution allows the union to elect one of its members and its president to the senate. The five other student members of senate are elected by the faculties and are in no way controlled by the union or its policy.

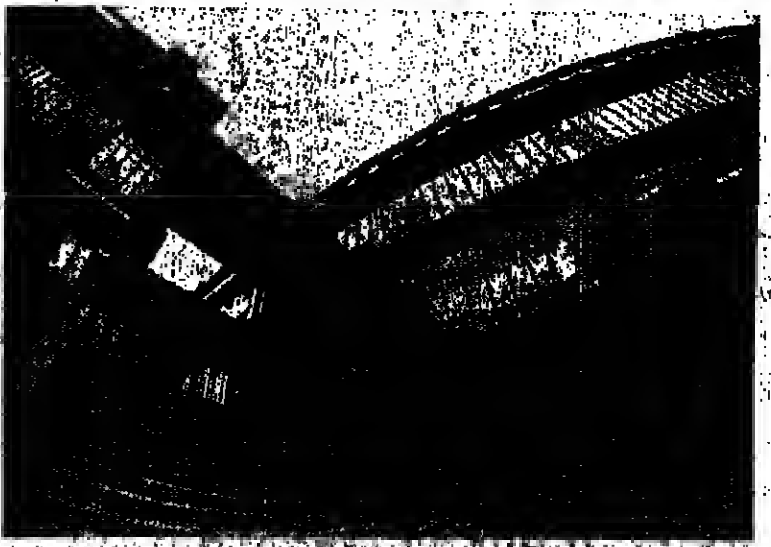
Mr Bob Rao, deputy president of the union, said: "Our major grievance is that the students as a whole have no control over their elected representatives in terms of being able to recall them."

He and other members of the union feel that erring students, including those elected from the faculties, should be subject to a vote of no confidence if they do not attend to their duties. They also criticise the low number of students actually allowed to play a part in the university government.

Mr Rao explained: "The ratio of students to academics on the senate is still too low. The power given to students under the new constitution has only been a token gesture."

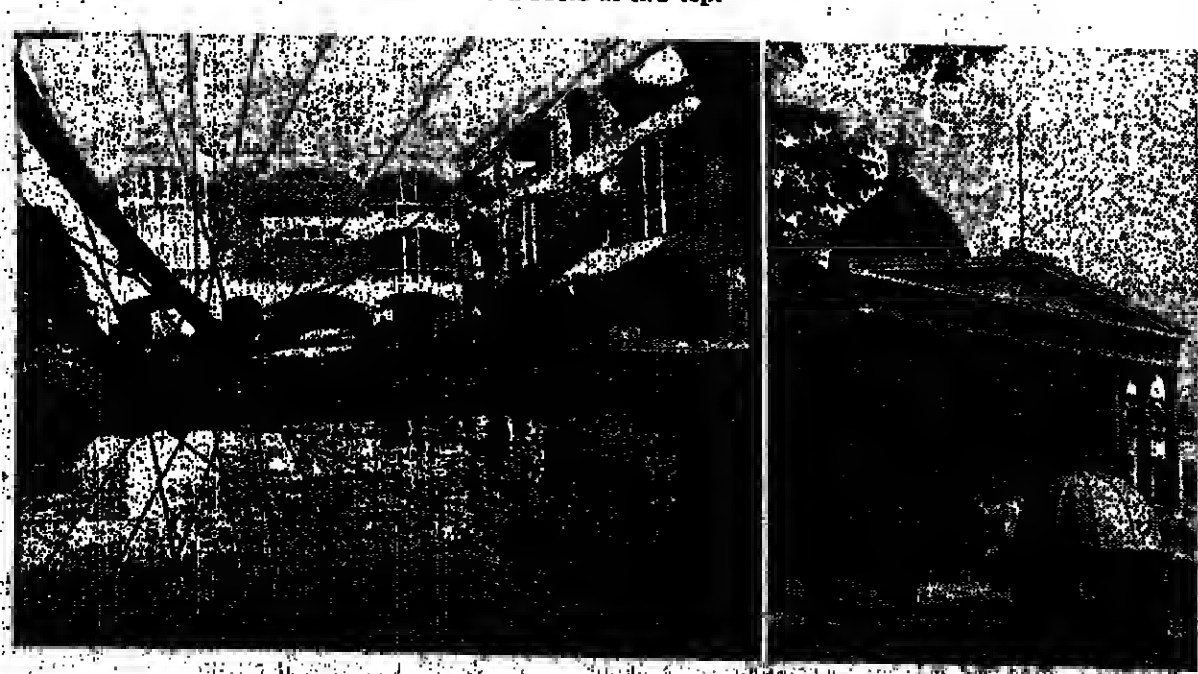
Criticism of the working of the new constitution has also been voiced by the non-professional staff who still feel that they are under-represented.

Mr Edgar Jenkins, secretary of the Association of University Teachers at Leeds, added the note enough of the non-professional staff exercised their voting rights and consequently the well-known professors' safety held their senate seats at elections.



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AUT's winter of some content

University teachers have now settled the second part of their 1974-75 salary claim. Although it is well short of what the Association of University Teachers claimed on their behalf, their winter should be reasonably contented. The academics' 26 s week is a small prick in the Government's income policy, on the ultimate success of which the universities, like all grant-dependent institutions, rely.

Yet if the salary now to be paid to university teachers is broadly reasonable in the economic circumstances, the process by which the settlement came about needs careful examination.

Since last Christmas the history of negotiations between the AUT and the Government, with the vice-chancellors concerned by-standers, has been one of rancour and angry accusations of Government bad faith. Even now there is a reservoir of bitterness to fuel the next round of salary bargaining for which the AUT is already preparing.

Some members of the AUT consider that the first stumbling block to the success of their claim was the complicated system of negotiation that involves two tiers of committees and consequent delays. It is argued that direct contact between the teachers and the Department of Education would speed negotiations.

On this point, one of the undesirable consequences of the past year's events has been the heightening of a feeling of confrontation between two embattled sides.

After the AUT's claim went to an arbitrating body in May, events did seem to back up the university teachers' claim that they had been singled out by the Government for some kind of sacrifice on the altar of incomes policy. Some AUT activists went further and alleged that the Government, and particularly officials in the DES, had a special animus against the universities and persecuted the teachers in their salary claim, an allegation that is strenuously denied by the DES.

This is over-dramatic. Mr Penrice did make his remark about university pressure at a particularly bad time. It is true, but beyond that DES officials could say with some justification that the AUT fell foul of a strange concoction of leads and lags and the birth of the incomes policy.

The AUT did suffer an injustice in the timing of the second part of the arbitration body's settlement, a fact which Mr Mulley has recognized and which Mr Laurie Sepper, the AUT general secretary, will no doubt utilize to its full extent in future negotiations.

What made it seem all the keener was the background of salary settlements paid to teachers in the polytechnics and whether—as the Houghton Report said—they did much "compromise" with university work and so in natural justice deserved similar salaries.

The AUT pointed out that it was not a simple matter of comparing two teachers across the binary line. Universities have a more general role in valuing the status of an academic mentor. The committee of the Council for National Academic Awards are full of university men who thus underpin the further education system's qualifications.

Nevertheless the Houghton principle of direct comparison between work in the two sectors will bear reiteration. At present in most grades above the starting lecturer university teachers have a slight edge over their further education colleagues. If the gap became much larger, the situation would become as anomalous again as it was in the early months of this year in the first flush of the Houghton settlement and the further education teachers' full cost-of-living award in April.

The AUT ends the year with material rewards for university teachers that keep them at the top of the educational pile. Because of their treatment they end the year with a moral edge.

The more retelling of the events of the past year, as in the document issued last week by Committee B, is as good as money in the bank. The university teachers might need a little patience before they can cash it.

Important accord in Brussels

If there is little of direct consequence to higher education in the EC's first educational action programme (page 11), agreed in Brussels last week, that is largely because that was how the institution itself wanted it. Soundings taken at the European Rectors' Conference, to which most British universities belong, revealed staff study visits to institutions in other member States as the top concern of academics.

Mutual recognition of diplomas came bottom of the priorities list, and there was little enthusiasm for further initiatives on inter-Market student mobility. Strikingly, the resolution signed by Mr Mulley and his eight colleagues, specifically refers to the need to "respect the independence of higher education institutions". Of an already modest £300,000 allocated to the action programme, £50,000 is going to higher education, mostly for "general mobility studies".

The significance of Brussels, however, lies not in the details of the programme but in the fact that a programme was agreed at all. "Evolution" of the content of the education, research and science, development, general in January 1973, when the Six became Nine, there has been great unease among the member States that the autonomy of national education systems would be threatened by the "Barrington" bureaucracy.

Early, clumsy attempts by the Commission to flow the idea of "Euroeducation" did nothing to allay these fears. Consequently, there has been much uneasiness about the Commission's role in the

of competence in response to Commission efforts to formulate policies. Last week's resolution breaks this deadlock.

The ministers agreed to set up a permanent education committee, to be composed of representatives of the nine countries plus the Commission. The committee will have oversight of the action programme and the development of future policies.

Most important, the Commission will have executive responsibility, working in close collaboration with the committee, for the implementation of the programme. The Commission's competence to act in certain areas of education has thus been established.

It is all the more necessary, therefore, that the Department of Education and Science should play a full and constructive role in future policy-making on the new education action. It is either right or wrong, it has been rightly or wrongly, that the Commission's role in education has been established.

What has most concerned the Commission has been the lack of policy-making by the universities. It is clear that the Commission, in its role of delegating, believes that we could give a real lead. If for no other reason than that enlightened self-interest, two should start doing so.

LETTERS TO THE EDITOR

Scuncheoner

from Professor J. E. Flood

Sir,—Isn't it funny how the same facts look different when viewed from opposite sides of the binary system? The letter from Dr Foss (THES, December 12) states that computer science degree courses were confined almost entirely to the polytechnic sector until four or five years ago, whereupon the universities entered the market and took students from the polytechnics.

The facts, provided by Mr Conway's letter in the same issue, show that a substantial number of courses were provided in each sector five years ago, but this provision has subsequently doubled in both sectors.

However, Mr Conway says that the increase in the polytechnic sector was "planned" and "justified", but that in the university sector was "uncoordinated and unnecessary" and so says University Grants Committee should reduce the number of courses in their sector and restrict the intake to those left. Surely, these conclusions could equally well (and unprofitably) be reversed!

Mr Rosser complains of polytechnic recruitment suffering because universities are competing with them for industrially-oriented students (thin-sandwich-course students). Is he not aware that the technological universities were providing these courses long before the

polytechnics were designated? Indeed, the polytechnics appear to have been created precisely in order to compete with the universities in this field.

Mr Pratt states that polytechnics are subject to "a system of accountability in the public sector which is quite absent from private institutions like universities. Polytechnics are accountable for student numbers in a way that universities are not." As a head of a university department who has been required for years to meet the ever more stringent "norms" of the UGC for expenditure, accommodation and staff/student ratios, I find this statement absurd.

What has happened is that both sectors of higher education have done their best in planning to meet the national need as they see it. However, entries to degree courses are not determined by national needs, but by the aspirations of school sixth formers which can be very different.

There is no point in members of either sector of higher education blaming the other sector for circumstances which are outside their control of both, and of the DES. In view of the increasing assault being made on the ivory of higher education, we must all heed the message in the letter from Professor Baines and should be fighting each other's battles, not each other's.

Yours faithfully,
J. E. FLOOD
Head of the department of electrical engineering,
University of Aston.

Pursuit of excellence

from Dr Keith Hampson, MP

Sir,—Dr Taylor (THES, December 12) must be one of the few men with his sort of responsibility who fall to recognize that the post-graduate boom in educational expenditure produced a considerable amount of overlap in courses and wasteful duplication of expenditure.

I see no contradiction in my determination to uphold the universities and polytechnics, and other institutions for that matter, as institutions pursuing excellence. I see no contradiction in my determination to uphold the universities and polytechnics, and other institutions for that matter, as institutions pursuing excellence.

It is even more extraordinary that as the director of the London Institute of Education Dr Taylor is not aware of the mounting concern over the number of degree courses being offered for validation by the re-organized colleges. Hardly a month goes by without further examples being brought to my attention.

But let me merely ask him why London University, which has a very old tradition of offering its degrees to external candidates, should have felt it necessary to have created a new degree, the BHum, for those courses which it has validated for the colleges. Is the university doubting of the likely quality of these degrees that it is afraid to put its own BAs on the line and risk its reputation?

Yours faithfully,
KEITH HAMPSON
Secretary of the Conservative back bench education committee,
House of Commons

Sociology mania

from Mr Frank Gould

Sir,—In his article on "Sociology and the media" for *Interchange*, Mr Gould (THES, December 5) Dr Dwyer draws some pretty strong conclusions from a rather narrow piece of evidence.

His main argument is that interdisciplinary studies at the first year undergraduate stage do not work or are at best superficial. This may be the case and may not be surprising since interdisciplinary is the latest of a number of disciplinary assumptions explicitly relating their assumptions to concepts, methods, and theories.

Students obviously do not possess the discipline-based expertise to carry out this interdiscipline.

But to jump from this to a conclusion that interdisciplinary studies should be postponed until post-graduate level is both invalid and unnecessary. There are plenty of examples of worthwhile and genuine interdisciplinary work at the post part I (year 1) level (when the basics of the contributing disciplines have been acquired) and if the post part I interdisciplinary work is buttressed by continuing single discipline studies, the potential for valuable interdisciplinary work is even greater.

To assume that postgraduates will suddenly turn interdisciplinary after three years' single discipline study (the conventional British university model which Mr Dewey recommends) is not substantiated by the facts—our postgraduate departments are typified by narrow, discipline-based specialists, locked in the intellectual traditions of the previous three years.

It is more than possible that lack of progress in interdisciplinary studies at the undergraduate level is responsible for the lack of interdisciplinary studies at the postgraduate level. The authors of the recent post SRC/SSRC report on "New Postgraduate Patterns".

Scotcland about new interdisciplinary courses is inevitable, indeed desirable. Perhaps Mr Dwyer should look at what is happening elsewhere at the post part I level—I would be pleased to show him.

Yours faithfully,
FRANK GOULD
Principal lecturer in integrated social sciences,
School of Social Sciences and Business Studies,
Polytechnic of Central London.

Enantioformism

from Mr G. F. Roe

Sir,—If David Dalziel could not find enantioformism in the OED (as he says in his review of "The classic" by Frank Keymode, (THES, November 28)) then he cannot have read Professor Keymode's review of W. H. Auden's "City without walls" (most easily available in *Modern Essays*). There (page 345) Professor Keymode remarks on finding the strange word "enantioformism" in the poem "Epithalamium" and discovering its meaning in the OED Supplement (the 1933 Supplement, that is).

Yours faithfully,
G. F. ROE
University of Cambridge

Overseas fees

from Professor W. G. van Emden

Sir,—I should be grateful for the opportunity to express support for Dr George Tolley in his opposition to increasing the differential fees charged to overseas students (THES, December 5). The value of those advocating the charging of "economic fees" running into thousands of pounds should not be thought, by the alliance of others, to be representative of informed opinion on the matter.

There are many arguments, seen on the plane of mere self-interest, to be made against such a policy: the foreign currency brought in, the likelihood of ex-students becoming leaders in their own countries, maintaining relationships made here and "buying British" when making important contracts; the interest we all have in seeing world poverty diminished.

Yet the most disturbing aspect of the call for economic fees for overseas students is perhaps its appealing insularity: apart from the effect on developing countries, the policy would isolate us from the universities of the developed countries too. Already, in my own experience, our differential fees have frustrated extremely advanced exchanges between British and Continental universities. Even the market for language courses for students from oil-rich states is a competitive one.

Dr Tolley rightly rejects the suggestion (made recently by Dr Kenneth Hampson, who is curiously orchestrating the cries for higher fees) of "impractical idealism". What other countries charge such fees?

This lavish provision by Russia and Eastern European countries of higher education for students from developing countries is unlikely, Dr Hampson's words, to be "over-romantic". If we cannot be generous, let us at least be hard-headed and far-sighted as they. Yours faithfully,

W. G. VAN EMDEN
President of the Society and member of the Overseas Service Committee,
University of Reading.

Interest in mathematics

from Dr Kenneth Dorwood

Sir,—Since I have not seen the confidential document which you report (THES, December 12) at having been circulated by the Department of Education and Science, I cannot comment on the accuracy of the conclusion that this college amongst others has low mathematics admissions.

I do wonder, however, if the statistics take account of the unique training courses by which all three or four year students are given the opportunity to claim credit towards the BA degree in an integrated programme of subjects with the Open University?

Our older mathematics students are encouraged to take the Open University foundation course in mathematics which, like all the courses in our joint scheme with the OU, is taught by tutors within the college.

Perhaps the Department of Education and Science statistics refer only to traditional teacher-training mathematics courses?

Yours faithfully,
KENNETH DARWOOD,
Principal,
Milton Keynes College of Education.

Book review headlines

from Professor Paul Holm
Sir,—Your readers may well know of your editorial practice of writing titles for book reviews without consulting with reviewers what they do not know, may be done well. Normally, this is done well. But not always.

For example, in the review of "The classic" by Frank Keymode, (THES, November 28)) then he cannot have read Professor Keymode's review of W. H. Auden's "City without walls" (most easily available in *Modern Essays*). There (page 345) Professor Keymode remarks on finding the strange word "enantioformism" in the poem "Epithalamium" and discovering its meaning in the OED Supplement (the 1933 Supplement, that is).

Yours faithfully,
G. F. ROE
University of Cambridge

The danger is political, not ecological, collapse

The first look at doom, as I shall call it, broke on the world in the report sponsored by the Club of Rome, written by Meadows and others, called *The Limits to Growth*. The message in this report was that the economic and industrial systems of affluent countries would collapse about the year 2100 unless, before then, two conditions are fulfilled.

One is that the birth rate should equal the death rate; the other is that capital investment should equal capital depreciation. Under these conditions Meadows offers mankind a chance of redemption in a stabilized world model.

Press comment on the report ranged from acceptance with uncritical awe to rejection with indignant contempt. Both these extremes are, in my view, irresponsible. Fortunately the excesses were examined by three responsible groups (and others) have examined it since): one from the World Bank, another in the University of Sussex, and a third group in Holland.

Their examination added the exercise with criticism. Many of the assumptions fed into the computer were (wrote the task force of the World Bank) "not scientifically established and the use of data was often careless and casual".

Moreover, eliminations of doom are very sensitive to the assumptions put into the computer. If the curves are recalculated allowing for a very mild response from society to the crises they predicted, the curves change shape dramatically.

But this is just a technical weakness. Far more serious is the omission of a parameter essential for any consideration of these grave problems, namely the mechanism of social and political response to environmental change.

The most striking and distinctive feature of all communities of organisms, from amoeba to man, is their homeostatic response and capacity for adaptation. To make simulations of environmental change which omit this parameter is to invalidate the whole operation.

And so what I called just now the first look at doom has been discredited and its message stifled; which is a great misfortune, for to stifle the message is as dangerous for our society as to swallow it uncritically. The prognosis is wrong but the malady remains. What is needed, therefore, is a second look at doom.

It helps, for a start, to get this dilemma of man into perspective. So many of the twentieth century Cassandras seem to be horrified, outraged, at the prospect that homo sapiens may lose his place in the hierarchy of nature. As a biologist I see no guaranteed reason for man on earth.

In the long run, it would be an avoluntary anomaly if homo sapiens were not to go the way of protozoa. In the much shorter run there is even less reason why western technological man should survive more than a millennium or so. It would be a historical anomaly if our present economic and social system were not to go the way of the cultures of Minoans and Aztecs.

It is from this perspective of western technological man that we now have to try to make a diagnosis. Are we in a crisis or in a climacteric? It is important to have a view on this.

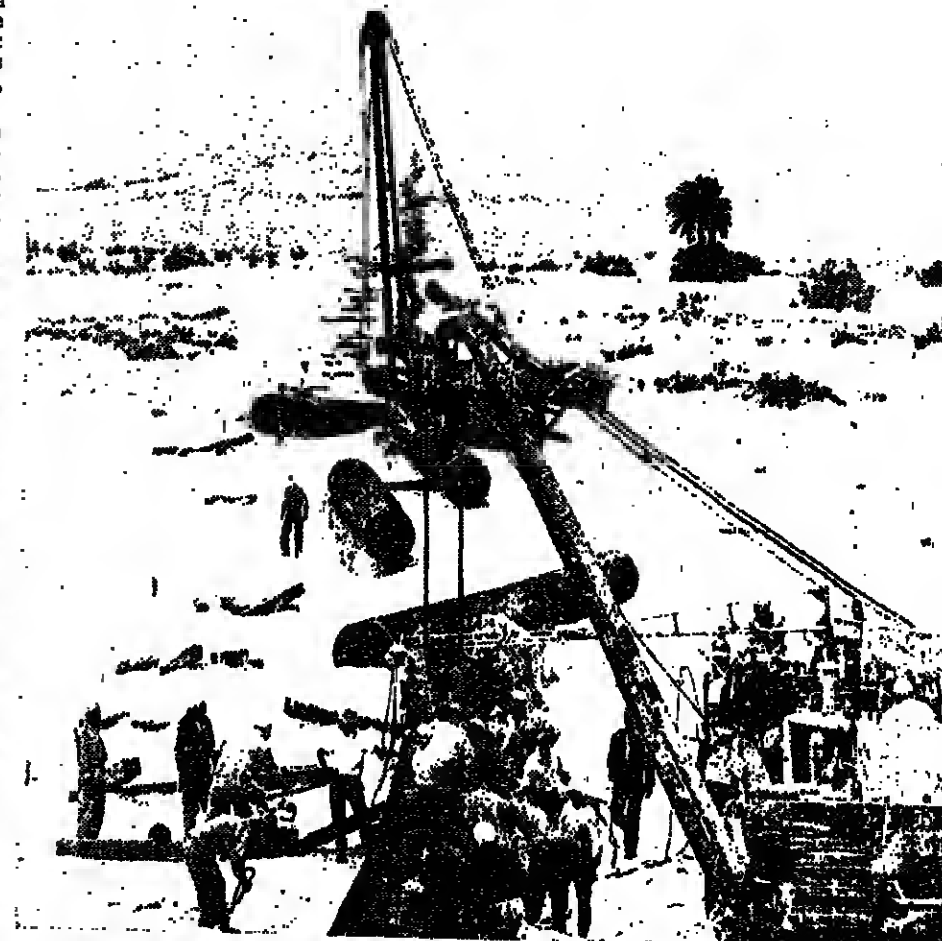
A crisis is a temporary malfunction of society. Temporary sacrifices, temporary hardships, technological fixes, some violence, perhaps even war or revolution, and the crisis is over; society emerges into a fresh phase of stability with some changes, of course, but with the ancient self-confidence of man as lord of nature restored.

If, however, we are approaching a climacteric, these expedients will not work. Our whole strategy for dealing with the dilemma has to be different. My own hypothesis is a gut opinion. I cannot support it with irrefutable arguments: is that we are not just in a crisis: we are approaching a climacteric.

Not only up to 1985, or to the year 2000, shall we be anxious about supplies of food and raw materials to sustain consumption, and about the equitable distribution of energy and the disposal of waste, and about the pollution of the environment and what we now call the Fourth World.

Nuclear war may bring these anxieties to an end in the Northern Hemisphere; but short of that, these spectres will brood over mankind for the rest of his time on earth. I could not argue this opinion, but I can illustrate it.

In a letter, now, to repeat that all sorts of things—population, consumption of many resources, discharge of some pollutants, pollution, scientific papers—have been increasing exponentially. It is common knowledge, too, that none of these trends will stop indefinitely. The curves become steepened. For some of these trends the turn-



Oil: do the Arabs have us over a barrel?

As the initial impact of the environmentalist debate subsides, Lord Ashby takes 'a second look at doom', and suggests that the real threats to world stability are political as much as environmental

ing point in the S-shaped curve has already been reached.

At this turning point something very significant occurs. While the curve is exponential there is positive feedback. But once the curve turns over, a negative feedback operates. Every increase tends to create resistance to further increase.

If supplies of some non-renewable resource, like oil, become more difficult to get, the price goes up and the higher the price the greater the resistance to further consumption. All this is familiar. But there is one less familiar effect of the turnover on the S-curve. It provokes political and even ethical responses from society. Deeply embedded social attitudes are somewhat.

In brief, the turning point of S-shaped curves is accompanied by value changes in society. For generations it has been taken for granted that all that can be done, in science and technology, must be done. The new ethic emerging at the turn of the S-curve is that somehow man must agree not to do all he is capable of doing.

This, then, is my scenario for a second look at doom. It might be a climacteric, irreversible, and it might—no one knows—be a gut opinion. I cannot support it with irrefutable arguments: is that we are not just in a crisis: we are approaching a climacteric.

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pen, men should respond if it does happen this way.

Alternative priorities arise from the criticism I have already mentioned: that the first look at doom (as I have defined it) omits the homeostatic response of society to changes in the environment. In a word, it omits politics.

Take the problem of non-renewable resources. Meadows and his colleagues publish data which predict how long known reserves of certain resources will last. Critics of Meadows assure us that intensity of exploration is a function of need.

They also assure us that as the resources diminish, new deposits will be discovered, or lower grade ores exploited, or recycling will become economic, or substitutes will be found. Indeed this response to foreseen shortages is going on all the time, and it is to some extent monitored by the price mechanism.

But this conventional economic response to impending shortages is quite inadequate to deal with the problems of the climacteric, for the main problems are not technological or economic; they are geopolitical.

Of course utilization of resources will not continue exponentially; of course fresh reserves are likely to be found as the need for them stimulates exploration. But the overall message is surely self-evident.

Until the industrialized nations find alternative sources or substitutes for all these resources, they remain dependent on nations which are under-developed, or which are not noticeably friendly to the West, for some essential supplies.

Long before reserves are physically exhausted they are likely to become politically inaccessible except on terms to be dictated by the producing country. We are, therefore, in for a succession of geopolitical confrontations, of which OPEC is the forerunner. (Well, not quite. The OPEC is the forerunner of a host of similar cartels over rubber from Ceylon and Malaysia in the 1920s, raising prices as successfully as OPEC did in 1973.)

From the standpoint of the countries which own these non-renewable resources, this policy toward consumer countries makes sense. Oil, for instance, may be a better investment left in the ground than exchanged for money which is rapidly losing its value. Also, oil left in the ground has a political value which is lost once the oil is exported. It is clear that literally at the turn of a tap the oil-supply countries could grave disturb the economy of industrial oil-importing countries.

The short-term response to this situation

is to search for substitutes and for fresh reserves, to recycle where possible, to economize where possible; and of course this is being done. This will buy time but it is not likely to solve the problem.

Short of an anaristic return to colonial conquest, we face the prospect that the balance of power will shift from the nations which use raw materials to the nations which possess raw materials.

We can for a time trade our know-how for their oil and ore. But only for a time; our exports of universities and polytechnics will sooner or later make them self-sufficient. When then? We have to reconcile ourselves to the new balance of power. It will need consummate diplomatic skill to achieve this.

A few months ago I was sent on a mission by the British Government to Saudi Arabia, to discuss the development of higher education there. I came back from that visit feeling that Britain's strategy for research and development in the oil industry should not be to become independent of the Arab.

It should rather be to work out a partnership with them; and to do the same with other non-industrial nations which possess raw materials or food which industrial nations need. The prerequisite for this is to understand these alien cultures: their languages, their religions, their social values.

The universities and polytechnics have much to contribute to the study of this problem. I suggest that one important—I would call it essential—educational response to the threatened shortages of non-renewable resources is to provide, for industry and government service, men who speak Arabic and understand Muslim culture.

These would be men who can establish a symbiosis with other countries which are likely to become the capitalists of the twenty-first century, based not just on trading for their culture or in or through oil or all, but on an understanding of their way of life.

My other priority in a second look at doom is the ominous instability of man-made ecosystems. They have none of the built-in stability of natural ecosystems, and there seems to be no acceptable way to incorporate stability.

Let me explain what I mean. In the evolution of natural ecosystems the survival value of complexity and stability have run side by side. Systems which become complex without concomitant mechanisms to keep themselves stable simply didn't survive.

The notion that the balance of nature is delicately poised and easily upset is nonsense. Nature is extraordinarily tough and resilient. Interlaced with checks and balances, with an astonishing capacity for recovering from disturbances in its equilibrium. You have only to look at a garden neglected for five to ten years to see an example of this.

Man-made systems, by contrast, have evolved in complexity without a corresponding evolution of stability. Consider such a fragile modern city as New York, such as occurred recently, paralyzed the lives of millions of people. Lifts in skyscrapers stuck, central heating systems failed, transport was in chaos.

In a natural system the border between symbiosis, which confers mutual benefit, and parasitism, which threatens mutual destruction is well guarded by powerful homeostatic mechanisms. In systems influenced or designed by man it is not so well guarded.

While the human ecosystem remains small, and not intricately interdependent, it preserves its equilibrium; or equilibrium may be preserved under despotisms such as feudalism or colonialism, where the despot imposes upon the human community something akin to the genetic coding imposed on a colony of ants.

But western democracies no longer conform to these conditions. They are hypertrophied—by which I mean that growth has outstripped regulation of the growth process. They are interdependent to a degree they cannot comprehend, let alone control. And they reject despotism as a remedy for their malaise.

Of course a great deal is being thought and written about this issue, its relevance to my theme is this. If we do experience a shift in the balance of economic power between nations which own resources and nations which must need these resources to keep their economies going, one sure consequence would be an increase in tension in the social systems of both sides.

The tempting way to resolve such tension is by autocracy and force. If you could shoot or put in jail, or even sack and starve, disloyal citizens (and of course there are nations where you could do any of these) the symbolic stability of human ecosystems could be maintained—for a fashion.

In fact this is the way we stabilized our own society in the 1840s. But the social consequence has evolved a long way since then. Our dilemma is that the welfare state, which is a by-product of the consumer society, despite its enormous benefits, has undoubtedly weakened the stability of symbiosis in human communities. But to respond by going back to autocracy, dictatorship, totalitarianism, would be a shameful travesty.

The author has recently retired as master of Clare College, Cambridge, and was the first chairman of the Royal Commission in Environmental Pollution.

The short-term response to this situation

BOOKS

Paradoxical vision

Old Testament sources

has been based. For this he will certainly have to go elsewhere. In the other hand the more advanced student will be very grateful for the lucid and relatively full discussion of the attempts to trace the setting of these sources and their original character.

Kniser is especially helpful on the Victorian Era.

Kniser is especially helpful on the history from Joshua to 2 Kings. Originally thought to be a number of separate writings, scholars now make the view that it was composed as a single connected work. This theory had not been adequately explained in English until now, and it is most useful to have a summary of the scholars' conclusions.

Occasionally Kalser sets out some new positions of his own in areas where he has been working, as in his book of Isaiah, but in general his style and strength of his book are in critical and exegetical work.

R. E. Clements

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Revi

**Proper Persons: Ideal and Reality in
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ment;** he is a reader in history at
the University of Sussex;
Corinne Hutt is reader in psycho-
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Collin Lacey is author of *Hitchcock
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System* and is professor of Educa-
tion at the University of Sussex;
Raymond Plant has a forthcoming
book entitled *Regel and Political
Economy* and is senior lecturer in
philosophy at the University of Manchester.

Reviewers

... training in mathematics, as

Amedeo and Golledge say their book is "about reasoning, and it is written for students who want to understand, if only at the introductory level, the rationale, strategies, and procedures of scientific research in geography." I expected therefore to find a book similar to that of Hacey's *Explanation in Geography*. Both cover similar sorts of topics—theory construction, the nature of models, the regional concept and classification, modes of explanation, form-to-process reasoning, modes of measurement, and the behavioral approaches—but the

Notational conventions within the book may cause confusion since they lack internal consistency and are also not infrequent. For example, X^2 is used to denote both the chi-square test statistic and the distribution of the test statistic. X^2 and χ^2 are both used to signify the chi-square statistic. The more usual modern statistical convention would be to use χ^2 for the test statistic which is distributed approximately as χ^2 . Also on page 190, the chi-square test is used when the wrong degrees of freedom, no allowance being made for the Poisson parameter estimated by the data. As other examples, capital Roman letters are used for both variates and variances, and both Greek and Roman letters are used for population parameters. In addition, to this kind of detail would have strengthened the book considerably.

Andrew Clift

Use and abuse of natural resources

Most of the papers are severely

Two papers on optimal depletion rates provide the academic kernel of the book. One suggests natural resources are not being exploited quickly enough and argues that almost any result can be obtained from global models and that models for exhaustible resources which stretch beyond a decade are worthless. Optimum resource depletion is believed to reflect the price pressures of a perfectly competitive world.¹ As might be expected, monopoly is seen as the source of

The conference at which these papers were presented did not support the faith of the few to the contrary. The final paper by the author of the first paper shows what can be done. It is a wealth of symbols to elucidate the weakness of the "free" market and of the interest rate as mechanism for optimal resource use (why does it not work?). The author's application of which word are rejected (in much of the text). It would appear that economics is still a science of short-term behaviour. It is inadequate for elucidating the behaviour of the world. The biological and political world faced with possible long-term disasters.

A. M. M. McFarquhar

Membrane biology for students

Five of the essays are concerned with the role of ions in membranes and their transport across mam-

D. J. Beadle

My main criticism is not that the data have not been converted into 51 units, which other books in the International Biological Programme have done. It is hard to see so little about population dynamics. Indeed, no life-tables appear in the book and no graphs of long-term population changes. The famous 'famine' and 'flood' year cycles are mentioned, but no near-term predictions are provided. Al Bozasi says that "the cause of those very serious and often obscure and controversial problems and analyses the ICBN will be made here" (p. 10). The title led me to expect a more serious study of this fascinating subject. The title also seems surely have some of the same connotations as the title of the book. Although some of the basic 'constants' for biomass, food consumption, or production of the animals are included, they do not seem to be complete for all species.

For these reasons the book does not go very far to achieve the objectives of the IPR, and does not provide much of value to those who are interested in the general field of population dynamics of organisms, its main value will be to those researchers interested in the small mammals themselves, and for some time to come it will be useful as a guide to the recent literature from the United States, Europe and the USSR on the small rodents and insectivores.

G. C. Varley

Catching the light energy

s in parts one and two of this volume. It then is a comprehensive survey of terrestrial ecosystems with a consideration of the primary production of forests, grazing lands, tundra, deserts, and of agricultural ecosystems. Primary production of freshwater macrophytes, marine macrophytes, freshwater microphytes and marine microphytes are considered in part two. The efficiency with which incoming light energy is used

Although aquatic photosynthesis accounts for a large proportion of the estimated total annual photosynthetic production of the world, it is primarily upon the extensive areas of the oceans with low rates of primary production per unit area compared to terrestrial environments. Whereas terrestrial vegetation such as tundra or desert is characterized by temperature and water stress the low productivity of aquatic plants result from the limited availability of carbon dioxide. Clearly, with different factors playing the major role in determining productivity in different environments the careful compilation of much now idle for these environments was essential if conservation of some ecosystems is to

The subsequent sections examine differences in primary production in terms of light and carbon dioxide distribution in the canopy, photosynthetic activity of leaves and plants and tissues. This is followed by a consideration of the use of assimilates for maintenance, growth and reproduction. The paper on biochemical pathways of photosynthesis highlights the importance of glycolate in photosynthetic metabolism whilst in "Source-Sink Relations and the Partition of Assimilate" is similar. "The Plant" some possible mechanisms by which dry matter is partitioned between the different parts of a plant are considered. The subsequent section deals with stress effects on photosynthesis resulting from water deficiency, temperature or a deficiency of specific elements.

This book contains much useful information and for this its greatest value lies in the sections covering primary production in terrestrial and aquatic ecosystems, the modification of photosynthetic production for increased yield having been considered in several recent publications.

Michael Merrett

Given limited resources for education, should we be pursuing excellence or equality of access and provision? The Open University represents a new attempt to solve this dilemma, at least in the field of adult higher education, by effectively claiming that no such dilemma exists. We can have excellence and equality.

The philosophy of the Open University is based, first, on the argument that there are many thousands of people, often early casualties of our elitist educational system, who are fully capable of degree-level education.

Secondly, by using a multi-media distance teaching system, such people can be educated to degree level in an extremely cost-effective manner. Finally, the OU argues that everyone is entitled to access to as much education as he or she desires.

Such beliefs are fine in theory but how do they work out in practice? The Open University is now in its fifth year of operation and we can begin to judge it by its results rather than its intentions. In this article we examine the extent to which the OU has achieved the three aims of equality of access, excellence and cost-effectiveness.

In a formal sense the OU is completely "open". No educational qualifications are required for entry and places are offered on a "first come, first served" basis.

However, it is not open in any real sense to a person who does not know the OU exists, or who thinks A levels are required. Nor is it truly open if the person is fully informed, but considers the course uninteresting, too difficult or too expensive.

For many people true openness would be achieved if the OU student population mirrored the adult population of Britain with regard to certain key characteristics such as sex, occupation, terminal age of education, and so on.

Analysis of the relevant figures in the OU's early years shows that equality of representation was not achieved in the case of women. In 1971 women formed 52 per cent of the British adult population but only 43 per cent of those who had heard of the OU and 33 per cent of those who became students.

However, the inequality was much greater for those with a terminal age of education of 15 or under. People in this group formed 75 per cent of the population but only 54 per cent of those who had heard of the OU and a mere 14 per cent of provisionally registered students.

To get an idea of the working class group, we have also considered men in manual occupations and a similar pattern emerges. Men in manual occupations formed 64 per cent of all male workers, 35 per cent of those who had heard of the OU and 9 per cent of the provisionally registered students.

The OU has clearly not achieved true openness "at a stroke" and probably only the most idealistic had expected this. Before we go on to examine what progress has been made towards this goal in subsequent years, however, it is worth looking a little more closely at the apparently middle-class nature of the student population.

Middle-class?

In fact OU students only appear to be predominantly middle-class when the students' own present occupations are used to derive their social class. If we take their father's occupation at the time the students left school, as is done by the University Central Council for Admissions, for undergraduates entering conventional universities, then a very different picture emerges.

In 1971, 29 per cent of the students entering conventional universities had fathers in manual occupations whereas the corresponding figure for OU students was 52 per cent. Even allowing for the decline in manual occupations between 1951 and 1971, the OU still shows a marked over-representation of manual workers.

Given that awareness of the OU has increased across the board since 1971, what effect has this had on the profile of OU students?

In 1975 women constituted 42 per cent of the new intake as opposed to 26 per cent in 1971. There was a similar increase from 28 per cent to 43 per cent for those not possessing formal university entrance qualifications.

Taking all male students in work, manual workers formed 9 per cent of the new intake in 1972 and 14 per cent in 1975.

Excellence for all at the OU, but some still find more equality than others

Naomi McIntosh and Alan Woodley claim the Open University does not acknowledge a dilemma between excellence and equality, but is in danger of becoming a revolving door that deposits disadvantaged students back on the pavement

per cent in 1975. The proportion of female workers in "clerical and office" and "sales and service" occupations, the nearest equivalent to female working-class occupations, rose from 21 per cent to 30 per cent over the same period.

Once more progress has been made. However, members of certain social groups are still less likely to become OU students, given that they have heard of its existence. In trying to explain these differences we can draw on the results from a number of surveys. One reason why people may not apply even though they have heard of the OU is that they may not have accurate knowledge of what the OU is and what it offers.

Many people send for details about the OU but do not complete the application form. Responses to our surveys suggest that the "drop-out rate" at this stage is higher for women, manual workers and those with a low terminal age of education, and also that their reasons for not applying differ markedly from other groups.

Discrimination

In addition each year about a quarter of the places offered to OU applicants are turned down. As there can be a gap of anything up to 9 months between applying and being offered a place, one would expect a certain degree of non-acceptance due purely to changes in circumstances such as emigration, illness, death, and so on.

However, the overall rates of non-acceptance and differences between certain groups suggested that at this stage too there were barriers to openness. A study of those who turned down the offer of a place for 1974—currently being concluded—shows that those in manual, clerical and office, and sales and services work, and those not working, were much more likely to turn down the offer of a place, as were those with a low terminal age of education.

As this progress has been made, the OU still has far to go to be truly open. At every stage from initially hearing of the OU to accepting the offer of a place, barriers exist which discriminate against particular types of people, many of whom have been deprived of educational opportunities in the past.

Most of these people are lost to the OU very early on. They do not even start their studies. An important task is to ensure that more people from the educationally deprived groups know about the opportunities which it offers.

However, awareness and accurate knowledge of the OU, while being essential, are not sufficient to attract applicants from such groups. Before they will apply, such people will have to feel that OU courses are interesting, worthwhile and, above all, within their capabilities.

Irrespective of the academic level of its courses, certain features of the OU's teaching system will continue to disadvantage prospective students from the educationally deprived groups.

For example, students taking each foundation course, and quite a number of later level courses, must attend a one-week summer school. Manual workers, who are more likely to have to work long hours, find it difficult to attend such courses.

A second reason is that to obtain an ordinary degree, six credits are needed, but some students are awarded up to three credit exemptions on the basis of previous work.

Such exemptions, which are awarded on the basis of previous work, are higher education they have already received.

The majority of manual workers, and all of those without experience of higher education, receive no credit exemptions. As most of these can only cope with studying for one credit each year this means that it will take them at least six years to obtain a degree, whereas many others may graduate in two or three years.

A further reason is that local authorities generally only pay the student's summer school fees. The expense of course tuition fees, set books, travelling to study centres and so on, must be met by the student.

With regard to the cost of the Open University, teaching degree students by Open University methods is cheaper than at conventional universities, but exactly how much cheaper is a complex question.

An earlier study has shown that, compared to conventional universities, the average recurrent cost per graduate would be less at the Open University even with an 85 per cent drop-out rate. Another study showed that the variable cost per student was lower in the Open University than elsewhere.

These encouraging verdicts need to be qualified in the light of certain developments. Two factors in particular may make the Open University less cost-effective in the future than it was in its early days.

Firstly, the throughput of students is declining, in other words students are now taking fewer credits per head per year. Less students are willing or able to fit in the 20 or more hours of study necessary for each credit.

As the Open University attracts more students with no experience of higher education and with physically demanding jobs, this trend is likely to continue. Therefore, in this one respect at least, greater openness can lead to a decline in cost-effectiveness.

The second factor concerns individual courses. In moving towards its 1984 goal of 137 courses (equivalent to 87 full credits) the Open University is now producing more high level courses, many of which inevitably have fewer students taking them in a given year.

It is estimated that in 1977 there will be 39 Open University courses running with less than 400 students on each course. By providing a wider variety of courses, the Open University will be enabling its students to have wider choice, and in some areas to obtain a more specialized degree, but it will be reducing its own cost effectiveness.

Despite this, although many individual courses will not be cost-effective when judged in isolation, this overall degree will clearly remain so, and this is the most significant fact. It is worth noting that the additional unquantified financial benefit which arises from the increasing use of Open University materials by other institutions.

Any attempt to compare an Open University education with that of a conventional university and to judge the Open University to be academically superior to the latter is to ignore the fact that the Open University teaches at a distance, and the courses which it provides utilize a variety of teaching media. It is in the business of the provision of mass higher education, and it is using the mass media to aid it in its task.

This use of innovative forms in education, in particular, the media, is often associated with radical attempts to increase access. The recipients of these attempts are, however, educationally disadvantaged, but are educated to learn in new, untried and often difficult ways.

But the use of the media is also often associated with the attempt to save money. The mass media, of themselves, are not cheap—they are only cheap when used for large numbers. The Open University is therefore only cheap because it uses the mass media for large numbers.

The use of the mass media inevitably means at some levels standardized content and a mass product. But the more students there are, the more difficult it is for standardized content to meet the individual differences and levels of need of all students.

Conventional universities with a relatively homogeneous intake of students of similar ages and abilities could theoretically manage with a mass product better than the OU. The OU has been criticized for reducing the educational experience received by its students through the combined use of independent learning and highly structured materials.

However, although its basis is independent learning, there are a variety of other contexts including tutorials, counselling sessions and self-help group summer schools and so on, which can do to enrich the OU learning experience.

The OU does not offer the intense experience of three years of campus life, but for the majority of OU students such an experience would probably be inappropriate and inaccessible given their occupation and family commitments.

To the extent that the argument about the reduction of the educational experience is valid, one must ask how much it is inevitable. Independent learning is often confused with individualized learning. The OU has been set up for independent learning. Its content is individualized.

What can be individualized is the pattern of students' study; how they choose to use the wide variety of learning components available to them, how long they spend over their studies, over what period of time, what pattern of subjects they choose to build up to a degree.

Turning to course structure, many educational innovations have attempted to innovate in all things: content, methods and standards. Most of them have failed.

The OU, while being radical in access and methods, has not attempted to write everything anew. Quite a few of the courses are interdisciplinary or interdisciplinary in nature, but on the whole they do not represent a dramatic break with the conventional curriculum nor a change in standards.

There are good reasons for this, as Jennie Lee foresaw. Not only are the educationally disadvantaged the least able to cope with new methods, they are also the least able to afford low-grade or dubious credentials.

It has always been intended that the OU should offer general rather than specialist degrees. This was a realistic decision, for many of the courses would have had to be made if the majority of students were to be able to make up their own desired specialist degrees.

It is difficult to measure how "good" OU courses are, but we can look for pointers in certain areas. Firstly, several institutions of higher education are admitting former OU students to their courses, frequently with advanced standing, on the basis of their OU credits.

This has happened, for example, at the universities of Sussex, Lancaster, Bristol, Warwick and Durham University and at Liverpool Polytechnic.

Secondly, some institutions are beginning to use OU course materials for their own students.

The actual amount varies from individual course units or modules to complete courses; the University of Kent, for example, is using a wide third level Arts course.

Thirdly, the OU degree is increasingly being recognized by employers as a valid qualification. For example, the Secretary of State for Education and Science has recognized the OU degree as equivalent to those of other approved institutions for the purpose of teachers' registration in England and Wales, while persons holding an OU degree are eligible for the police graduate entry scheme.

The nature of the OU's credit system creates many problems for researchers when they try to examine success rates. However, this is dealt with in detail elsewhere and here we content ourselves with a few overall statistics.

In the first year, new students provisionally register for foundation courses for what amounts to a trial period. If they decide to continue they pay the final registration fee and at that point they become full OU students who can leave and rejoin the OU at will in future years.

Each year, about 75 per cent of the provisionally-registered students decide to become finally registered. Such students generally succeed with their first year studies—in 1974 some 80 per cent were awarded at least one credit at the end of the year.

In subsequent years of study, course success rates remain fairly high. In 1974 this stood at an average of around 70 per cent for all courses that year. Over half the students who finally registered in 1971 were still studying at the beginning of 1974, and the following intakes show a similar staying power.

Success rate

Turning to OU graduates, by the end of 1974, 9,559 graduates had been produced, and a third of the first intake had already obtained degrees. However, there was also a decline in throughput, with a smaller number of the 1972 intake graduating in two years.

In general then, the success rate of OU students seems fairly satisfactory. As far as one can make any comparison, the figures are lower than for conventional full-time universities in the UK but not very different from other universities with open admission in the US.

They are, however, much higher than for other part-time correspondence courses. But, if the OU is aiming for excellence and equality then we must direct our attention to the performance of students in the educationally-deprived groups.

A study of the OU's first intake showed that women in fact fared better than men. However, those in the "lower" occupational groups and those with low educational qualifications, did less well than other students, and one might have expected the question now is whether or not the situation has improved in the subsequent years.

Taking the figures for the 1971 and 1974 intakes of OU students and controlling for course, then 1971 manual workers fared slightly better than their counterparts in 1974. This was due to a real decline in their success rate, plus a slight increase in the success rate of "professional" workers.

Not on this decline in performance be accounted for by the fall in educational qualifications among OU students, those with low qualifications also fared relatively well in 1974 than in 1971. The decline was apparent for humanities, social science, and most markedly, mathematics; only in the case of science did the differentials remain the same.

These results suggest that although the OU is attracting relatively more students from manual occupations and with lower educational qualifications, they are not doing relatively well in their first year of study.

Their progress on future courses and the performance of subsequent intakes must obviously be carefully monitored to see whether this apparent trend is real.

Significant numbers of such people do succeed at the OU, but it is more difficult for them to do so. There appears to be a danger that the OU's door will become a revolving door that deposits many disadvantaged students back on the pavement.

Naomi McIntosh is a research officer in the department for student affairs and Alan Woodley is a research officer in the department for student affairs.

Classified Advertisements

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Appointments vacant

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Universities

ADELAIDE

THE UNIVERSITY
Applications are invited for the following appointments:
SENIOR TECHNICAL FELLOW
The University of Adelaide has a vacancy for a Senior Technical Fellow in the Department of Mechanical Engineering. The successful candidate will be responsible for the teaching and supervision of students in the field of mechanical engineering, and will also be responsible for the development of the department's research programme in this field. The salary is £10,000 per annum, plus pension and other benefits. Applications should be sent to the Director of the Department of Mechanical Engineering, University of Adelaide, Adelaide, South Australia 5001.

UNIVERSITY OF EXETER
CHAIR OF PHYSICS
A Chair of Physics has become vacant in consequence of the death of Professor G. K. T. Conn. Applications are invited from experimental physicists for this Chair. The appointment will be made with effect from 1 October, 1976, or as soon as possible thereafter. Salary will be on the agreed professorial range Minimum £7,897, average £9,280 p.a. Further particulars may be obtained from the Academic Registrar and Secretary, University of Exeter, Northcote House, The Queen's Drive, Exeter EX4 4JQ, to whom applications (13 copies, overseas candidates 1 copy) should be forwarded so as to reach him not later than 30 January, 1976.

ST. CATHERINE'S COLLEGE OXFORD
Applications are invited from men or women for appointment as a second

SCHOOL OF BEHAVIOURAL SCIENCES
Lecturer in Sociology

Preference will be given to a candidate with a research background in the field of social structure and culture in the context of the social sciences, and who is also qualified to teach in the field of sociology. The successful candidate will be expected to undertake research in the field of sociology, and to teach in the field of sociology. Applications should be sent to the Director of the School of Behavioural Sciences, St. Catherine's College, Oxford, to whom applications should be forwarded so as to reach him not later than 30 January, 1976.

Official Fellow and Tutor in French

The successful candidate will be expected to teach French literature of the 16th and 17th centuries and in general to assist in the teaching of French in the College. The Fellow elected will be eligible to hold a university lectureship (C.U.F.). The successful candidate will be expected to take up the appointment on 1 October 1976.

Further details may be obtained from The Master, St. Catherine's College, Oxford, to whom applications should be sent not later than 31 January 1976 and should be accompanied by a statement of the candidate's career and qualifications, together with the names of three persons to whom reference may be made.

UNIVERSITY OF DUBLIN
The University of Dublin is seeking applications for the following positions:

LECTURER IN SOCIOLOGY

Applications are invited for the position of Lecturer in Sociology. The successful candidate will be expected to teach in the field of sociology, and to undertake research in the field of sociology. Applications should be sent to the Director of the Department of Sociology, University of Dublin, to whom applications should be forwarded so as to reach him not later than 30 January, 1976.

UNIVERSITY OF EAST ANGLIA
NORWICH
LECTURESHIP

In Applied Research in Education in the Centre for Applied Research in Education from 1976 to 1978. The successful candidate will be expected to undertake research in the field of applied research in education, and to teach in the field of applied research in education. Applications should be sent to the Director of the Centre for Applied Research in Education, University of East Anglia, to whom applications should be forwarded so as to reach him not later than 30 January, 1976.

IRELAND
THE QUEEN'S UNIVERSITY BELFAST
CHAIR OF CIVIL ENGINEERING

Applications are invited for the position of Chair of Civil Engineering. The successful candidate will be expected to teach in the field of civil engineering, and to undertake research in the field of civil engineering. Applications should be sent to the Director of the Department of Civil Engineering, Queen's University Belfast, to whom applications should be forwarded so as to reach him not later than 30 January, 1976.

BRISTOL
THE UNIVERSITY
LECTURESHIP IN PHYSICS

Applications are invited for the position of Lecturer in Physics. The successful candidate will be expected to teach in the field of physics, and to undertake research in the field of physics. Applications should be sent to the Director of the Department of Physics, University of Bristol, to whom applications should be forwarded so as to reach him not later than 30 January, 1976.

IRELAND

THE QUEEN'S UNIVERSITY BELFAST

CHAIR OF SOCIOLOGY
The Queen's University Belfast has a vacancy for a Chair of Sociology. The successful candidate will be expected to teach in the field of sociology, and to undertake research in the field of sociology. Applications should be sent to the Director of the Department of Sociology, Queen's University Belfast, to whom applications should be forwarded so as to reach him not later than 30 January, 1976.

BIRMINGHAM

THE UNIVERSITY OF BIRMINGHAM

PROFESSOR AND HEAD OF DEPARTMENT OF MECHANICAL ENGINEERING
The University of Birmingham has a vacancy for a Professor and Head of the Department of Mechanical Engineering. The successful candidate will be expected to teach in the field of mechanical engineering, and to undertake research in the field of mechanical engineering. Applications should be sent to the Director of the Department of Mechanical Engineering, University of Birmingham, to whom applications should be forwarded so as to reach him not later than 30 January, 1976.

AUSTRALIA

MACQUARIE UNIVERSITY

SCHOOL OF BEHAVIOURAL SCIENCES
Lecturer in Sociology

Preference will be given to a candidate with a research background in the field of social structure and culture in the context of the social sciences, and who is also qualified to teach in the field of sociology. The successful candidate will be expected to undertake research in the field of sociology, and to teach in the field of sociology. Applications should be sent to the Director of the School of Behavioural Sciences, Macquarie University, to whom applications should be forwarded so as to reach him not later than 30 January, 1976.

BIRMINGHAM

THE UNIVERSITY

ADMINISTRATIVE ASSISTANT
Applications are invited from men or women for appointment as an Administrative Assistant. The successful candidate will be expected to assist in the administrative work of the university. Applications should be sent to the Director of the Department of Administration, University of Birmingham, to whom applications should be forwarded so as to reach him not later than 30 January, 1976.

CANADA

THE UNIVERSITY OF VICTORIA

LECTURESHIP IN SOCIAL PSYCHOLOGY
The University of Victoria has a vacancy for a Lecturer in Social Psychology. The successful candidate will be expected to teach in the field of social psychology, and to undertake research in the field of social psychology. Applications should be sent to the Director of the Department of Social Psychology, University of Victoria, to whom applications should be forwarded so as to reach him not later than 30 January, 1976.

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MANCHESTER

THE UNIVERSITY

LECTURESHIP IN PHYSICS
The University of Manchester has a vacancy for a Lecturer in Physics. The successful candidate will be expected to teach in the field of physics, and to undertake research in the field of physics. Applications should be sent to the Director of the Department of Physics, University of Manchester, to whom applications should be forwarded so as to reach him not later than 30 January, 1976.

IRELAND

THE QUEEN'S UNIVERSITY BELFAST

CHAIR OF SOCIOLOGY
The Queen's University Belfast has a vacancy for a Chair of Sociology. The successful candidate will be expected to teach in the field of sociology, and to undertake research in the field of sociology. Applications should be sent to the Director of the Department of Sociology, Queen's University Belfast, to whom applications should be forwarded so as to reach him not later than 30 January, 1976.

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